RADview-EMS/TDM

Element Management System
for TDM Applications

Megaplex-2100H/2104H

Publication 12/03

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Chapter 1
Introduction

1.1 Overview

RADview provides management operations for the Megaplex 2100H/2104H. Megaplex 2100H/2104H gives service providers the flexibility to offer cost-effective VoIP, Frame Relay, and Internet services. It is part of RAD's managed Multiservice Access Platform (MAP), which delivers a wide selection of services such as data, Internet, voice, fax, ISDN, and video over a single E1/T1 line.

The main advantage of the Megaplex 2100H/2104H over traditional multiplexers is its hybrid support for legacy voice and VoIP traffic. This allows on-net and off-net voice to be carried by a single access unit.

1.2 Using the Graphical User Interface

Megaplex 2100H/2104H devices can be configured and monitored easily using the graphical user interface. The interface presents an interactive image of the full Megaplex Hybrid hub with all of its cards. Configuration and monitoring can be done at the system (Megaplex Hybrid) level, or individually for the various cards and ports.

There are two modes of operation: Edit Configuration and Agent Configuration. Both Edit and Agent Configuration mode system level operations are discussed in *Chapter 2* - *System Management*, and Edit and Agent card level operations are detailed in *Chapter 3* - *Card and Port Management*.

Using the Edit Configuration Mode System Interface

The system level graphical interface is shown in *Figure 1-1*.

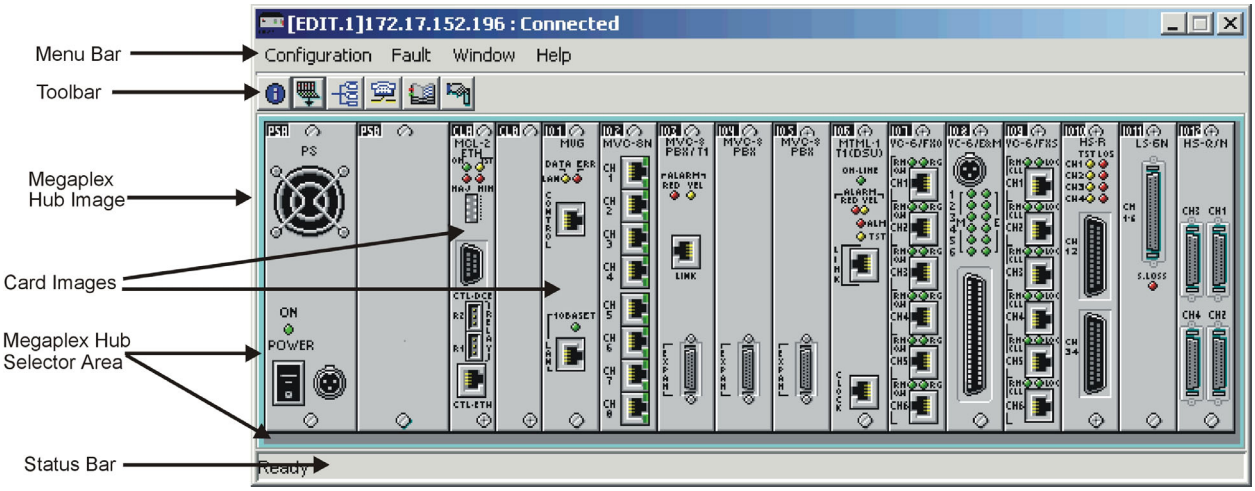


Figure 1-1. System Level - Edit Configuration Mode

The Megaplex Hybrid system level interface has the following components:

- **Menu bar** - Lists the various menu options for the currently selected component
- **Toolbar** - Provides a shortcut for a subset of the menu items
- **Megaplex Hybrid hub image** - Interactive graphical interface for the Megaplex Hybrid system
- **Card images** - Graphical interface for configuring the various cards installed
- **Megaplex Hybrid hub selector area** - Clickable area used to select the hub image
- **Status bar** - Gives system status information via text and a colored status block. When the block is yellow, the system is working and has not yet completed the display. When the block is green, the display is complete.

➤ **To select the Edit Configuration mode:**

- In the System View, click the border of the top hub in the window.

  The border will be highlighted in blue.

Viewing the Agent Configuration Interface

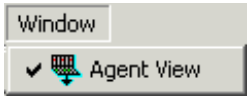


Figure 1-2. Window Menu

The Agent Configuration interface can be shown or hidden from view using the Agent View menu command.

➤ **To show the Agent Configuration interface:**

- Select **Window > Agent View**

  Or

  Click the Agent View toolbar button.

➤ **To hide the Agent Configuration interface:**

- Select the **Window > Agent View** menu item

  Or

  Click a second time.

Using the Agent Configuration Mode System Interface

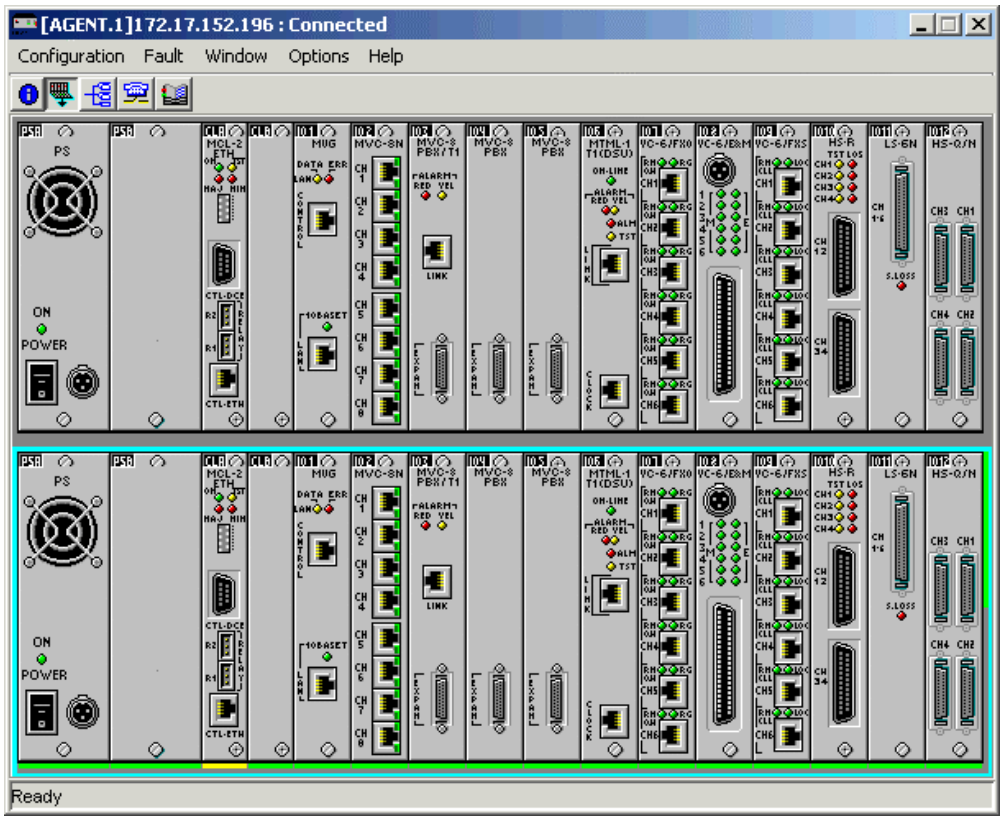


Figure 1-3. System Level - Agent Mode on Bottom, Edit Configuration Mode on Top

➤ **To select the Agent Configuration mode:**

- In the System View, click the border of the bottom hub in the window.

  The border will be highlighted in blue.

Note *If there is no communication between the network management station and the current Megaplex Hybrid, the Agent mode is disabled and only the Edit Configuration mode appears on the screen.*

Note *A correctly installed card will be surrounded by a blue border when selected. If it is not installed correctly, a red border will surround it.*

Using the Card Level Interface

You can view a card level interface for any card in the hub.

➤ **To view the card level interface for a particular card:**

1. Select the card in the hub by clicking the card image.
2. Select **Configuration > Zoom**.

Or

1. Double click the card image.

A sample card interface is shown in *Figure 1-4*.

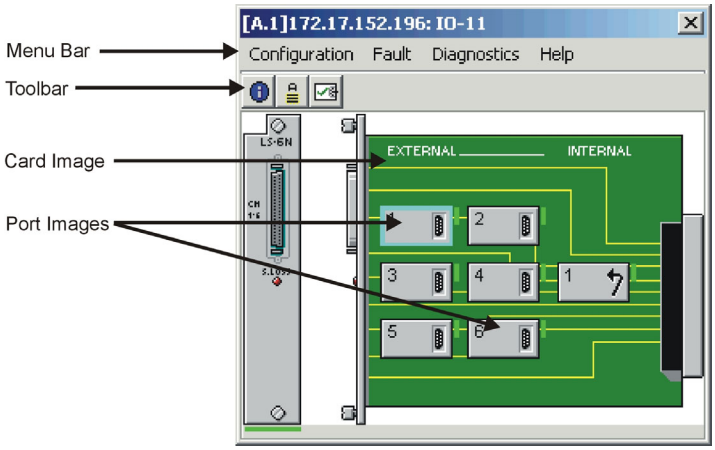


Figure 1-4. Card Layout View (Sample)

The card interface has the following components:

- **Menu Bar** - Lists the various menu options for the currently selected component
- **Toolbar** - Provides a shortcut for a subset of the menu items
- **Card image** - Graphical interface for configuring the card
- **Port images** - Graphical interface for configuring the selected port

Using Port Images

When you select a port, you can configure the port and obtain port information using the menu items on the card level interface. You can also double-click on the port to view or edit port configuration information. Some ports have additional menu items and functions.

➤ **To select a particular port:**

- Click the port image.

  The port is surrounded by a blue border. Menu items will vary depending on the type of card and port.

Using Dialog Boxes

Dialog boxes are presented throughout the interface for entry or display of information. You can resize any dialog box by clicking on its corner and dragging the dialog box to the size you want.

Chapter 2

System Management

2.1 Selecting the System

The Megaplex 2100H/2104H user interface has two modes of operation: Edit Configuration and Agent Configuration. Edit Configuration Mode is always available by clicking on the border of the top hub in the window. To enable Agent Configuration, you must select it from the Window menu as described in *Displaying the Agent View*, Page *2-22*, and then click on the border of the bottom hub in the window. Menu and Toolbar options vary depending on the mode of operation.

2.2 Edit Configuration Mode Operations

This section describes the Megaplex 2100H/2104H management operations that can be performed in RADview's Edit Configuration mode.

Note *After RADview installation has been completed and you perform the first Zoom into a Megaplex 2100H/2104H device, the process of reading the agent's Alarm Descriptions is performed in the background. This process may last for two to three minutes, without any indication that it is running. It is not recommended to perform configuration Read or Update during this period of time, since you may subsequently receive an Unknown Error/Alarms description for some of the alarms.*

Configuration Operations

There are several system level configuration operations in Edit Mode.

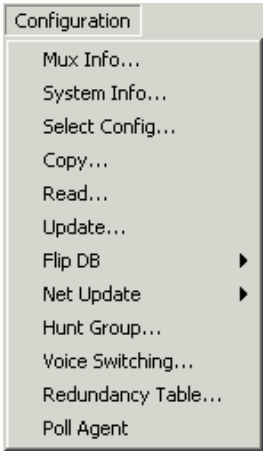


Figure 2-1. Configuration Menu

Table 2-1 lists the different configuration options for the system level.

Table 2-1. System Configuration Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Setting Mux timing information	Mux Information dialog box See *Performing Megaplex Hybrid Software Configuration, page 2-3*	Configuration ➥Mux Info…
Displaying system information Setting voice level offset	System Information dialog box See *Displaying System Information, page 2-5*	Configuration ➥System Info…
Setting Megaplex Hybrid configuration	Select Configuration dialog box (*Figure 2-4*)	Configuration ➥Select Config…
Copying edit configuration to another Mux	Mux Copy dialog box (*Figure 2-5*)	Configuration ➥Copy…
Transfering current agent configuration to edit configuration	Read Config dialog box (*Figure 2-6*)	Configuration ➥Read…
Transfering edit configuration to agent configuration	Update Config dialog box (*Figure 2-7*)	Configuration ➥Update…
Setting flip DB agenda	Flip DB Agenda dialog box (*Figure 2-9*)	Configuration ➥Flip DB ➥Agenda…
Setting flip DB net events	Flip DB Net Events dialog box (*Figure 2-10*)	Configuration ➥Flip DB ➥Net Events…
Defining events that cause RADview to flip to specific configuration	Flip DB Decision table (*Figure 2-12*)	Configuration ➥Flip DB ➥Decision Table…
Saving (downloading) edit flip configuration parameters to agent	See *Updating (Downloading) the Configuration to the Agent, page 2-8*	Configuration ➥Flip DB ➥Update…
Reading (uploading) flip parameters from agent to edit flip configuration	See *Reading (Uploading) the Agent Configuration, page 2-7*	Configuration ➥Flip DB ➥Read…
Saving current edit configuration to all Muxes in net	Net Update Save Configuration dialog box (*Figure 2-16*)	Configuration ➥Net Update ➥Save Config…
Saving current flip configuration to all Muxes in net	See *Saving the Flip DB, page 2-16*	Configuration ➥Net Update ➥Save Flip DB…
Defining Hunt Groups	Hunt Group Dialog Box (*Figure 2-18*)	Configuration ➥Hunt Group
Setting Voice Switching Parameters	Voice Switch Table (*Figure 2-20*)	Configuration ➥Voice Switching

Tasks – Configuration	Dialog Box and Parameter Location	Path
Setting redundancy parameters	Redundancy Table (*Figure 2-22*)	Configuration ➥Redundancy Table…
Polling the agent	See *Polling the Agent, page 2-21*	Configuration ➥Poll Agent…
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Viewing list of sanity check errors	Sanity Check Errors List (*Figure 2-25*)	Fault ➥Sanity Check Error…
Tasks – Window	**Dialog Box and Parameter Location**	**Path**
Displaying Agent view	See *Displaying the Agent View, page 2-22*	Window ➥Agent View

Performing Megaplex Hybrid Software Configuration

The **Mux Info** command allows viewing and setting Megaplex Hybrid configuration information.

➤ **To set the current Megaplex Hybrid software configuration:**

- Select **Configuration > Mux Info**

  Or

  Click the **Mux Info** button .

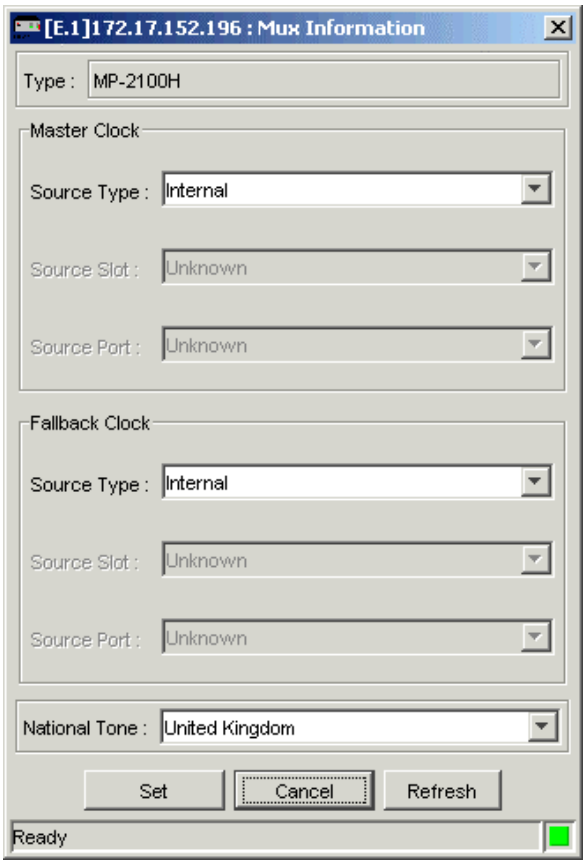


Figure 2-2. Mux Information Dialog Box

Table 2-2. Mux Information Parameters

Parameter	Possible Values
Type	The type of Megaplex Hybrid: **MP-2100H, MP-2104H**
Master Clock	
Source Type	Main source for Megaplex 2100H/2104H timing: **Internal, Rx Clock** Default: **Internal**
Source Slot	The slot containing the card on which the master clock is located. This parameter is applicable only when the master clock source type is **Rx Clock**. **IO-1** to **IO-12**: Default: **IO-1** Empty slots are not selectable For MP-2104H: **IO-1** to **IO-5**
Source Port	The port through which the master clock signal is received by the Megaplex 2100H/2104H. This parameter is applicable only when the master clock source type is Rx Clock. **External 1** to **External 12** Default: **External 1**
Fallback Clock	
Source Type	Alternate source for the Megaplex 2100H/2104H timing, to be used in case the master clock fails **Internal** , **Rx Clock** Default: **Internal**
Source Slot	The slot containing the card on which the fallback clock is located. This parameter is enabled only when the fallback clock source type is **Rx Clock**. **IO-1** to **IO-12**: Empty slots are not selectable Default: **IO-1** For MP-2104H: **IO-1** to **IO-5**
Source Port	The port through which the fallback clock signal is received by the Megaplex 2100H/2104H. This parameter is applicable only when the master clock source type is **Rx Clock**. **External 1** to **External 12** Default: **External 1**
National Tone	**Australia, Brazil, Canada, China, Czechoslovakia, France, Germany, Israel, Mexico, Portugal, Russia, Spain, United Kingdom, USA, No Tone** Default: **USA**

Displaying System Information

The **System Info** command displays physical information about the current Megaplex Hybrid.

➤ **To display system information:**

- Select **Configuration > System Info**...

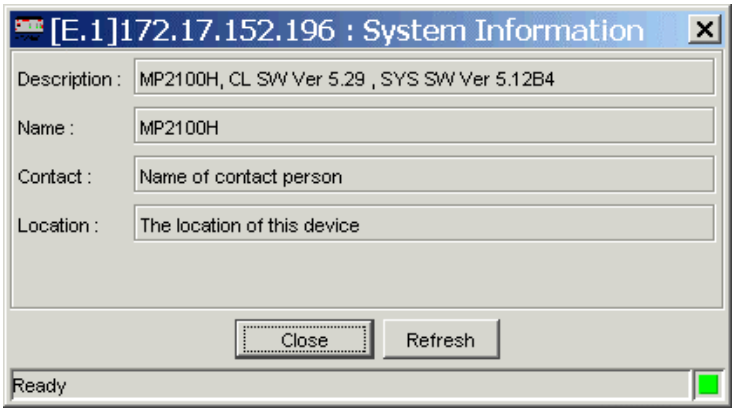


Figure 2-3. System Information Dialog Box

Modifying the Configuration List

➤ **To view the list of Megaplex Hybrid configurations:**

- Select **Configuration > Select Config**.

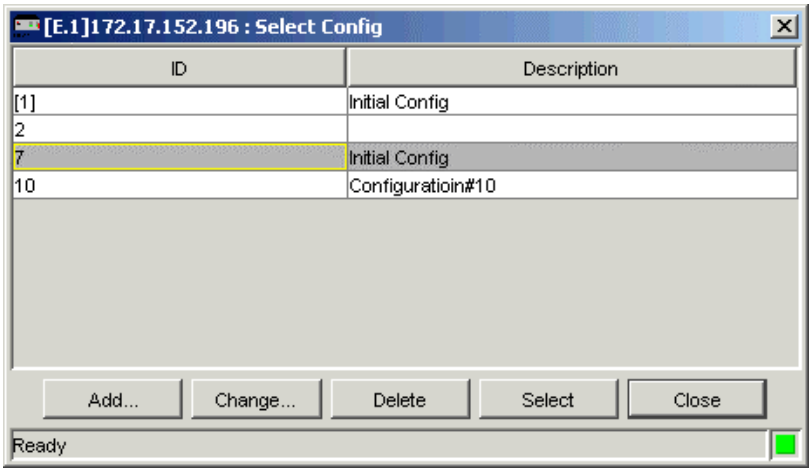


Figure 2-4. Select Config Dialog Box

Note *A maximum number of 10 configurations can be stored in Edit mode.*

Table 2-3. Select Config Parameters

Parameter	Possible Values
ID	Index numbers in the list of the configurations. The current Edit Configuration is marked by [ ] surrounding the ID number.
Description	Brief description of the configuration. The default description for ID [1] is **Initial Config**.
[Add…]	Click <**Add…**> to add a new Megaplex Hybrid configuration to the Select Config list. The Add Configuration dialog box appears. Select an available configuration ID and enter a description of the new configuration in the Description field. Click <**Set**>. The new configuration will include the same set of cards as the previous configuration, but the card configuration values will be the defaults.
[Change…]	To change a Megaplex Hybrid configuration description, select an entry in the list and click <**Change…**>. The Change Configuration dialog box appears. Enter new description of the configuration in the Description field. Click <**Set**>. The changed description appears in the Select Config dialog box.
[Delete]	To delete an entry in the list, select the entry and click <**Delete**>. A dialog box appears asking the user to confirm the delete. Click <**OK**> to confirm the delete of the entry from the RADview database. **Note:** *You cannot delete the configuration that currently appears in the Edit Configuration mode. To delete this configuration, select another configuration to appear in the Edit Configuration mode. You can then delete the replaced configuration.*
[Select]	To select a configuration to appear in the Edit Configuration mode, select the configuration and click <**Select**>

Copying Configuration

The **Copy** command transfers the current Edit Configuration, or all existing Edit Configurations, to a specified Megaplex Hybrid in the net.

➤ **To copy configurations:**

1. Select **Configuration > Copy**.

Note *If the **All** radio button is selected, the Configuration ID and Description fields will be disabled. The copied configurations will have the same ID and Description as the source.*
You can select more than one Megaplex Hybrid as the destination. The Configuration ID will be the same for all destinations, if the Current configuration is copied.

2. Set Copy parameters as required and click <**Set**>.

   The selected configurations are copied to the destination Megaplex Hybrid(s) and Configuration ID(s).

   If the destination Configuration ID already exists on the destination Megaplex Hybrid, the copied Configuration ID overwrites the existing one.

Note *Card slots whose card type was changed during the copy process, will contain default configuration values.*

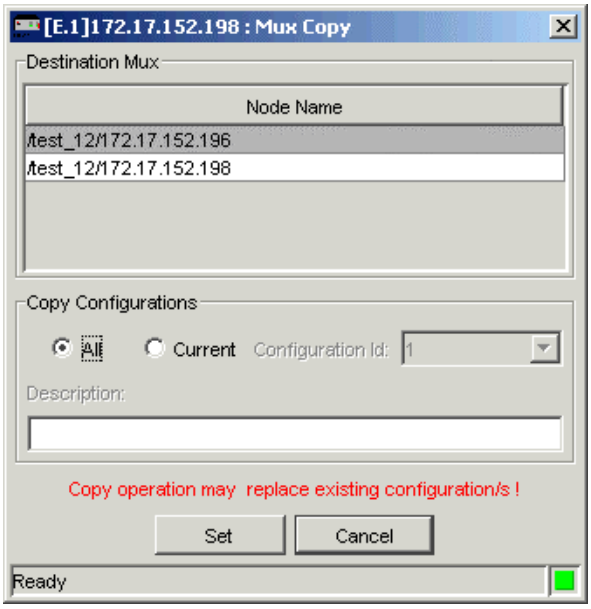


Figure 2-5. Mux Copy Dialog Box

Table 2-4. Mux Copy Parameters

Parameter	Possible Values
Destination Mux	Destination of the copy operation
Node Name	A list of the existing Megaplex Hybrids, including the current one For MP-2100H only MP-2100H Megaplex Hybrid types will be selectable. For MP-2104H only MP-2104H Megaplex Hybrid types will be selectable. You can select more than one Megaplex Hybrid as the destination. The Configuration ID is the same for all if only the present configuration is copied.
Copy Configurations	Select **All** to copy all existing Edit Configurations or **Current** to copy only the current Edit Configuration.
Configuration Id	The destination configuration ID. If the destination configuration ID exists, the copy operation will overwrite it. The default Configuration ID is the same as the current Edit Configuration. **Note:** *The current configuration cannot be the destination configuration.*
Description	A brief description of the destination configuration

Reading (Uploading) the Agent Configuration

The **Read** command uploads the current Agent configuration into the Edit Configuration mode. This command is only available if communication exists with the agent.

➤ **To upload the configuration from the agent:**

1. Select **Configuration > Read**.
2. Select the desired configuration.

3. Click <**Apply**> to upload the selected Megaplex Hybrid configuration from the agent configuration for the CL card.

Note *Apply causes the selected configuration to be uploaded automatically. No user confirmation is requested.*

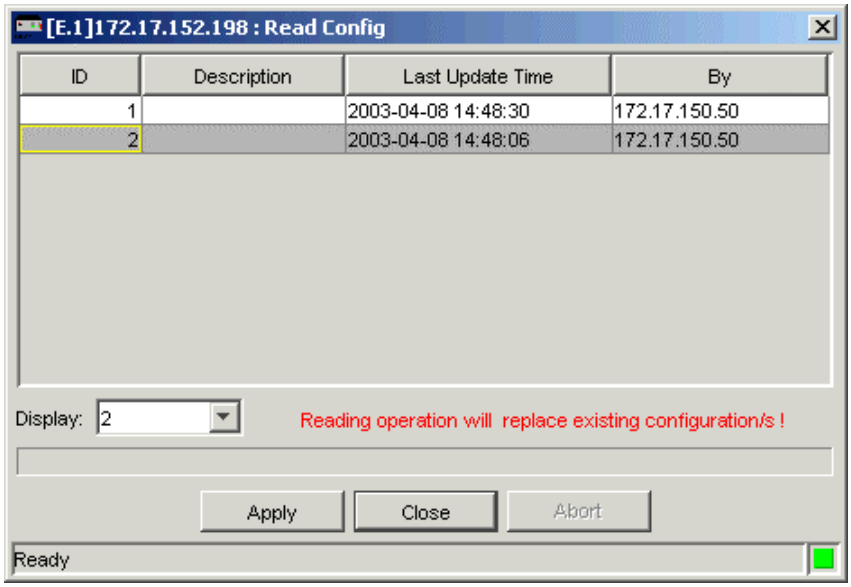


Figure 2-6. Read Config Dialog Box

Table 2-5. Read Configuration Parameters

Parameter	Possible Values
ID	Configuration ID number of the agent configuration in the RADview database. The current Agent Configuration is marked by [ ] surrounding the ID number.
Description	Brief description of each agent configuration in the RADview database
Last Update Time	Date and time of the last update of each configuration
By	IP address of the manager that performed the last update of each configuration
Display	Selected configuration entry from the Read Config list

Updating (Downloading) the Configuration to the Agent

The **Update** command downloads a specific Edit Configuration to the Megaplex Hybrid CL card.

➤ **To download a specific Edit Configuration to the agent:**

1. Select **Configuration > Update…**
2. Select the desired Configuration Id.
3. Click <**Apply**> to download the selected configuration to the Megaplex Hybrid.

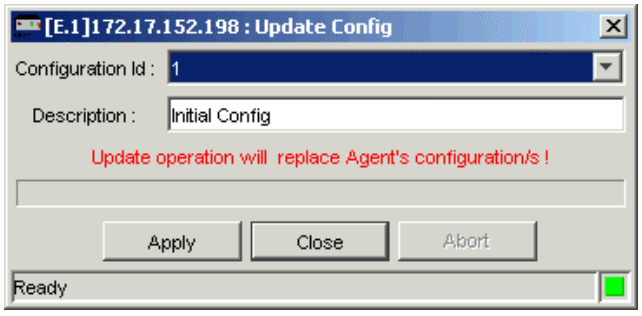


Figure 2-7. Update Config Dialog Box

Table 2-6. Update Config Parameters

Parameter	Possible Values
Configuration Id	Configuration ID number of the Edit Configuration you want to download to the Megaplex Hybrid
Description	Brief description of the selected Edit Configuration

Performing Flip DB

The **Flip DB** command opens a submenu that includes commands for defining parameters for flipping configurations, saving the Flip configuration to the Megaplex Hybrid (activating), and reading the Flip configuration to the Edit Configuration (uploading).

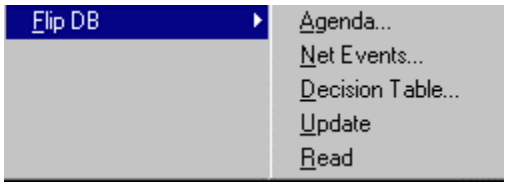


Figure 2-8. Flip DB Submenu

Setting Flip DB Agenda

The **Agenda** command defines a type of workday for every day of the week. The type of workday helps determine the times of automatic activation for the Flip configuration.

➤ **To define a weekly agenda for the Flip configuration:**

1. Select Configuration > Flip DB > Agenda...

   The Flip DB Agenda dialog box displays a weekly schedule.

2. For each day of the week, click a day type. A day type can be Full Workday, Partial Workday or Weekend.

Note *Only one Day Type can be selected for each day.*

3. Click <Set> to save the agenda in the RADview Edit Configuration database.

Note *This agenda is downloaded to the Megaplex Hybrid only when you invoke the Flip DB>Update command.*

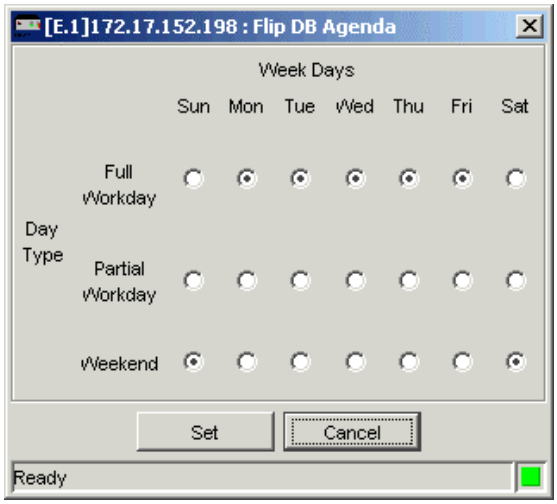


Figure 2-9. Flip DB Agenda Dialog Box

Setting Flip DB Net Events

The **Net Events** command defines the events that will occur during the automatic configuration flip.

➤ **To set the Net Events:**

1. Select **Configuration > Flip DB > Net Events...**
2. Configure desired parameters and click <**Set**> to save the Net Events parameters in the RADview Edit Configuration database.

Note *These parameters are downloaded to the Megaplex Hybrid only when you invoke the Flip DB>Update command.*

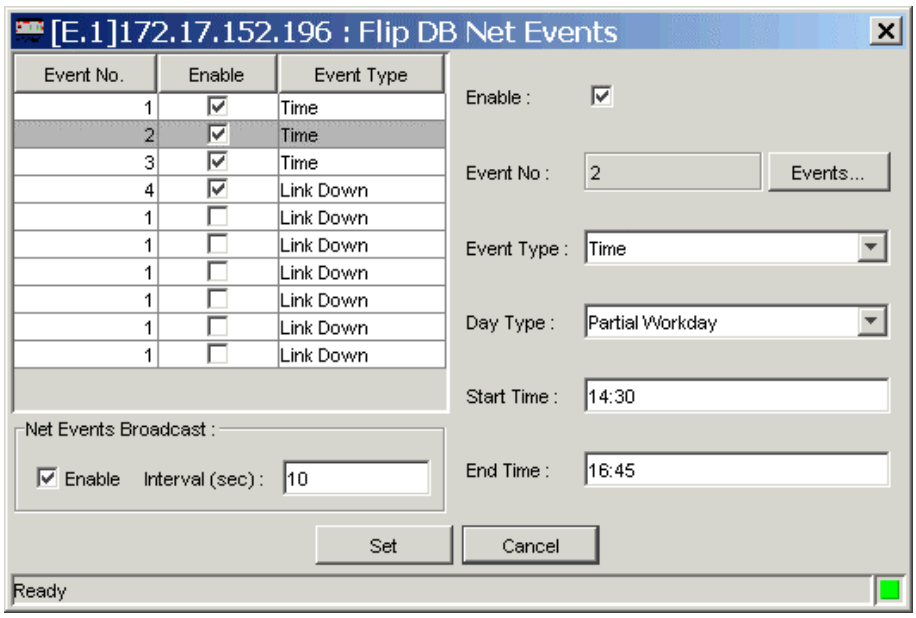


Figure 2-10. Flip DB Net Events Dialog Box - Event Type = Time, Day Type = Partial Workday

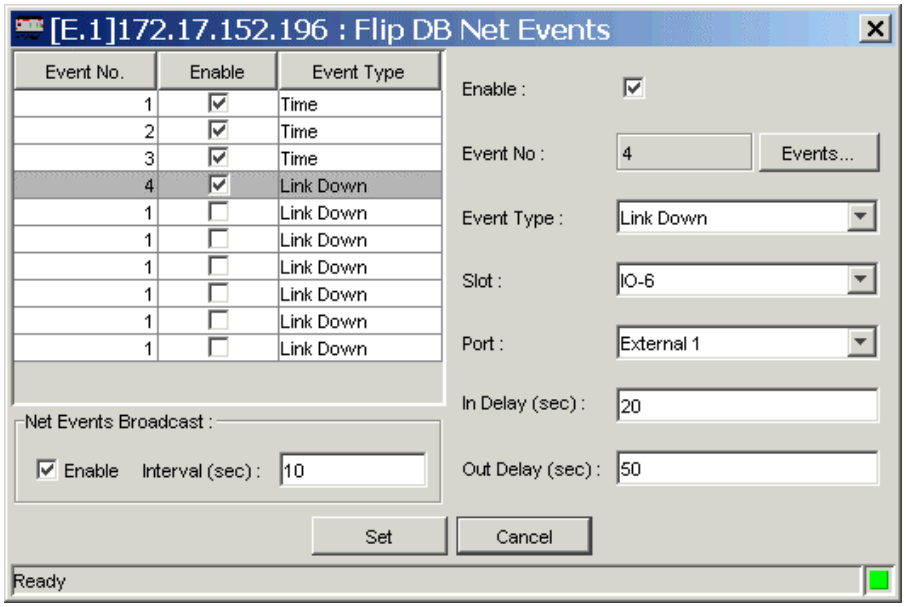


Figure 2-11. Flip DB Net Events Dialog Box Event Type = Link Down

Table 2-7. Flip DB Net Events Parameters

Parameter	Possible Values
Event No.	The net event code number. This number is unique for a particular type of event in the entire net. This prevents usage of the same number by more than one type of event. The available options are **1** to **511**.
[Events…]	Clicking <**Events…**> opens the Net Events List, which displays only numbers that are not currently assigned a type of event. Click the event number you want and click <**Set**>.
Enable	√ in the Enable column indicates that an entry is valid. To add or modify parameters of a net event, click the Enable checkbox (√) on the right side of the dialog box. To delete/cancel an entry, you must first remove the √.
Event Type	Type of event. The available options are **Time**, **Link Down,** and **Congestion**. Congestion events are applicable only to Packet Switch ports. **Note:** *You can enable only one Time Event per Day Type. Enabling more than one Time Event per Day Type causes a failure when you try to save the Flip DB to the Megaplex Hybrid (Flip DB Update).*
Event Parameters	For **Event Type=Time**, you can set the following parameters: **Day Type -** The type of day, as determined in the Flip DB Agenda **Full Workday, Partial Workday,** and **Weekend** **Start Time -** Time at which RADview activates the event **End Time -** Time at which RADview deactivates the event **Note:** *Start Time must be before End Time.*
	For **Event Type=Link Down**, you can set the following parameters: **Slot -** Slot in the Megaplex Hybrid in which the selected net event occurs **IO-1 to IO-12** **Port -** Port in the Megaplex Hybrid in which the selected net event occurs **external-1 to external-16, internal-1 to internal-48** (depending on the type of card) **In Delay (sec) -** Delay time between the reporting of a net event as ON and the actual occurrence of the event **1 to 999** **Out Delay (sec) -** Delay time between the reporting of a net event as OFF and the actual termination of the event **1 to 999**

The Decision Table

In the Decision Table, you can define a combination of events that will cause RADview to flip to a specific configuration automatically.

➤ **To set event combinations for activating a specific configuration flip:**

1. Select **Configuration > Flip DB > Decision Table...**

   Each entry in the Flip DB Decision Table defines a combination of events that cause a specific Flip DB action.

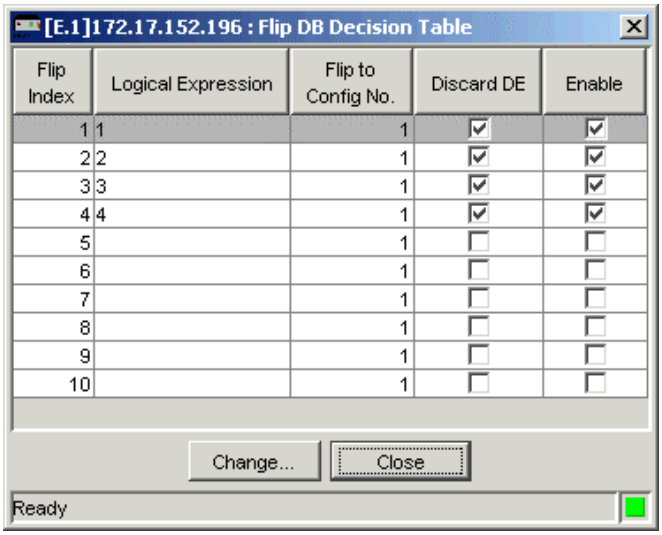


Figure 2-12. Flip DB Decision Table

2. Select the event combination to modify and click **<Change…>**.
3. Configure desired parameters and click <**Set**> to save the Decision Table parameters in the RADview Edit Configuration database.

   If an event listed in the logical expression parameter does not exist in the event database, the error message **Logical Expression includes undefined/disabled event/s**, appears after you click <**Set**>.

Note *This error message's purpose is to inform you that a potential error condition exists. Regardless, pressing **OK** in the error message proceeds to save the decision table in* RADview's *database.*

Note *The Decision Table is downloaded to the Megaplex Hybrid only when you invoke the **Flip DB>Update** command.*

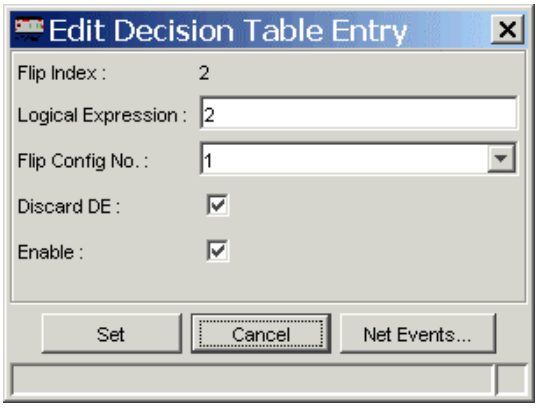


Figure 2-13. Flip DB Edit Decision Dialog Box

Table 2-8. Flip DB Decision Table Parameters

Parameter	Possible Values
Flip Index	Index number of the entry in the Table according to the order of priority For example, suppose that multiple event combinations causing flipping to more than one configuration occur at the same time. RADview will activate the entry that comes first in the Decision Table.
Logical Expression	Combination of net events which, if they occur, cause RADview to flip to a specific Megaplex Hybrid configuration The expression consists of event numbers and the following logical symbols (maximum of 20 characters): & - AND | - OR ! - NOT ( ) - Parentheses enclose a combination of events that comprises a single condition in the logical expression. For example, (2&51)|(!102&4) means that (event no. 2 exists AND event no. 51 exists) OR (event no. 102 does not exist AND event no. 4 exists). ***Note:*** *The logical expression cannot begin with a blank space.*
Flip Config No.	ID number of the Megaplex Hybrid configuration that will be activated if the events defined in the logical expression occur
Discard DE	Indicates whether the Mux should start discarding all DEs
Enable	Indicates that an entry is valid

➤ **To check if any events written in the logical expression do not exist:**

- In the Edit Decision Table Entry dialog box, click <**Net Events**...>

  The Net Events List appears displaying the defined and enabled net events stored in RADview's database in ascending order. If an event that is written in the logical expression does not appear in this list, the error message, **Logical Expression includes undefined/disabled event/s**, appears after you click <**Set**> in the Flip DB Decision Table.

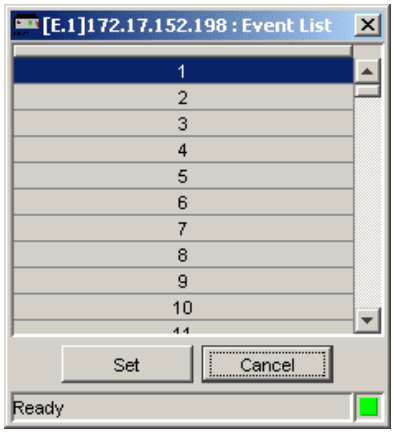


Figure 2-14. Decision Table's Net Event List

Updating (Downloading) the Flip DB to the Megaplex Hybrid

The **Flip DB>Update** command saves (downloads) the information in the Agenda, Net Events and Decision Table to the Megaplex Hybrid.

Note *This option is only available when there is communication with the Megaplex Hybrid.*

➤ **To update the Flip DB to the Megaplex Hybrid:**

1. Select **Configuration > Flip DB > Update**.
2. Click <**OK**> to confirm Update operation.

   The Flip configuration is saved in the Megaplex Hybrid CL card.

   If the sanity check detects errors, RADview aborts the Update Flip DB process.

Reading (Uploading) the Flip DB to the Edit Configuration

The **Flip DB>Read** command reads (uploads) the Flip configuration from the Megaplex Hybrid agent's mode in the database to the Edit Flip Configuration.

Note *This option is only available when there is communication with the Megaplex Hybrid.*

➤ **To upload the Flip DB to the Edit Flip Configuration:**

1. Select **Configuration > Flip DB > Read**.
2. Click <**OK**> to confirm Read operation.

   The Flip configuration in the Megaplex Hybrid CL card replaces the existing Edit Flip configuration.

Performing a Net Update

The **Net Update** command allows you to save the current Edit Configuration and/or flip configuration to all Megaplex Hybrids in the net.

Figure 2-15. Net Update Submenu

Saving the Configuration

The **Save Config** command allows you to save the current Edit Configuration as the Megaplex Hybrid's temporary configuration without activating it over the net.

➤ **To save the current Edit Configuration as the Megaplex Hybrid's temporary configuration:**

1. Select **Configuration > Net Update > Save Config...**
2. Configure desired parameters and click <**Apply**>.

   If the sanity check is successful, the download proceeds and the selected Edit Configuration is saved as the temporary configuration of the Megaplex Hybrid but not activated over the net.

   If warnings appear, completion of the download process requires user confirmation. If the sanity check detects errors, RADview aborts the download process and displays the error message, "**Sanity Check errors encountered by NMS"**. To view a list of detected errors, click <**View Errors**>.

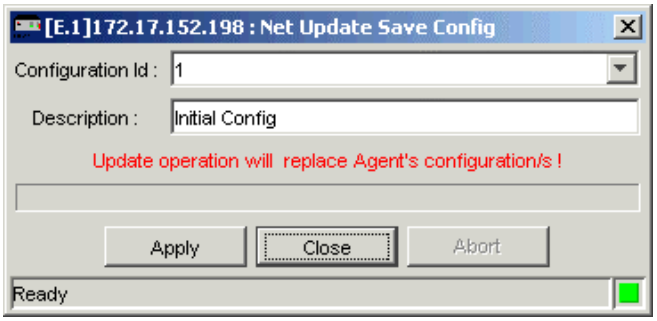


Figure 2-16. Net Update Save Config Dialog Box

Table 2-9. Net Update Save Config Parameters

Parameter	Possible Values
Configuration Id	Configuration ID number of Edit Configuration that you want to save as the temporary configuration
Description	Brief description of the selected Edit Configuration

➤ **To abort the Save Config operation in process:**

- Click <**Abort**>.

Saving the Flip DB

The **Save Flip DB** command saves the flip configuration as the temporary flip configuration of the Megaplex Hybrid, without activating it over the net.

➤ **To save the Flip configuration as the Megaplex Hybrid's temporary flip configuration:**

1. Select **Configuration > Net Update > Save Flip DB…**
2. Click <**OK**> to confirm the Net Update Save Flip DB.

   If the sanity check detects errors, RADview aborts the Save Flip DB process.

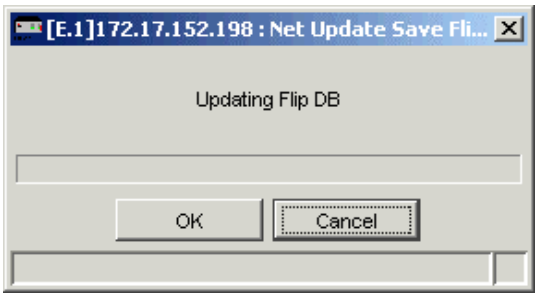


Figure 2-17. Net Update Save Flip DB Confirmation Dialog Box

Creating a Hunt Group

RADview enables you to define a set of links that provide a common resource as a hunt group. A user selecting the hunt group can be connected to any of its member links.

➤ **To configure hunt groups:**

1. Select **Configuration>Hunt Group**

   Or

   Click the **Hunt Group** button on the toolbar.

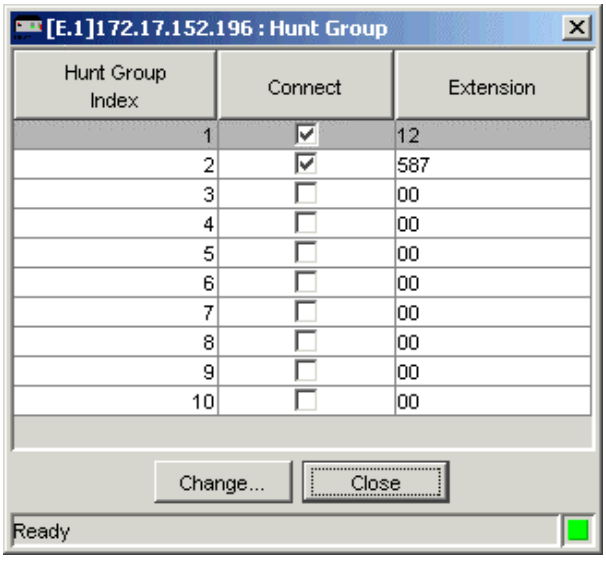


Figure 2-18. Hunt Group Dialog Box

2. Select the desired hunt group and click **<Change…>**.

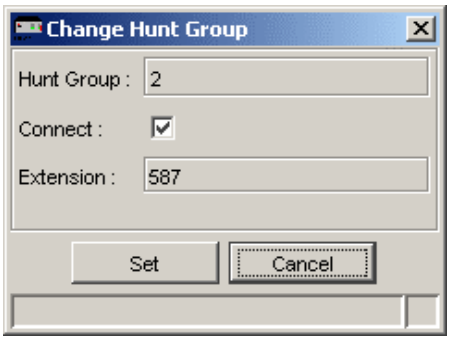


Figure 2-19. Hunt Group Change Dialog Box

3. Check desired **Connect** checkbox for a particular hunt group, and click **<Set>** to apply the change.
4. Click <**Close**> to save changes and close the Hunt Group dialog box.

Table 2-10. Hunt Group Parameters

Parameter	Remarks/Possible Values
Hunt Group Index	Number assigned by the Network Management Station to each hunt group **1..10**
Connect	Select the check box to choose whether the hunt group should be considered in any of the mux algorithms. **Checked** (yes), **Unchecked**
Extension	Assigns an extension number of the hunt group. **1..99 , NA**
[Close]	Closes the dialog box.

Configuring Voice Switching

➤ **To configure voice switching:**

1. Select **Configuration>Voice Switching**
   Or
   Click  .

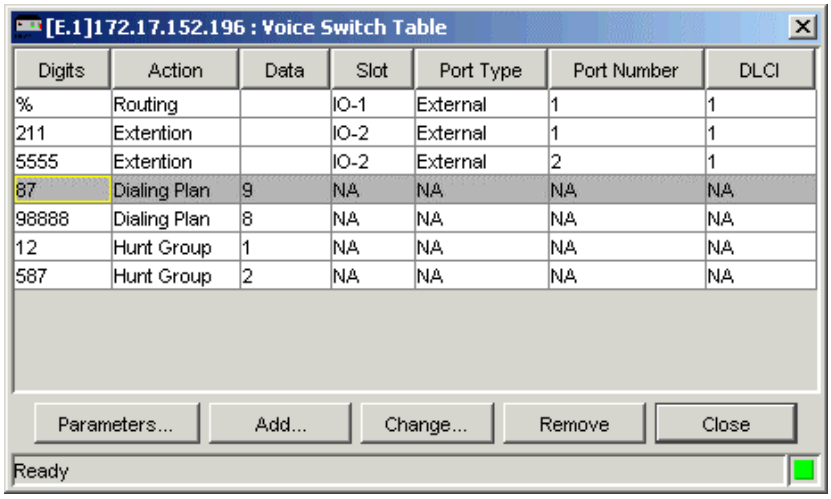


Figure 2-20. Voice Switch Table

2. Add or modify rows as follows:

   Click **<Add…>** to add a new row
   Or

   Select a row and click **<Remove>** to remove a row
   Or

   Select a row and click **<Change…>** to modify the information in the selected row.

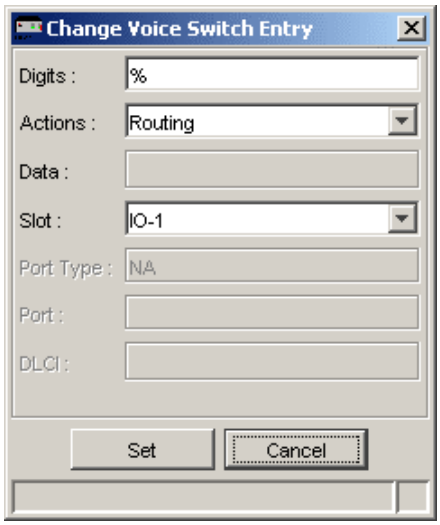


Figure 2-21. Change Voice Switch Dialog Box

3. Click <**Set**>to save the new or modified row.

Table 2-11. Voice Switch Parameters

Parameter	Remarks/Possible Values
Digits	**%** (up to 7 digits)**, #, *** Default: **%**
Action	Action system performs for these digits Possible values will vary depending on the Dialing Plan: For Static: **Zone, Node, Internal, Short Dialing, Hunt Group, Delete, Replace** Default: **Node** For Static Plus: **Zone, Node, Internal, Short Dialing, Hunt Group, Delete, Replace, Dialing Plan** Default: **Node** For Flexible: **Hunt Group, Delete, Replace, Dialing Plan, Routing, Extension** Default: **Routing**
Data	Hunt Group Index number can be inserted in this field (up to 7 characters) Only used when **Action = Hunt Group, Replace** or **Dialing Plan**. (When **Action** = **Delete** this field will not be used. Use the **Digits** field to enter the number of characters to be deleted) When **Action** = **Hunt Group**, enter the Hunt Group number When **Action = Replace**, enter number of digits When **Action = Dialing Plan**, enter the number of digits to be collected before establishing the call. Default: **(blank)**
Slot	Enabled when **Action= Zone, Node, ShortDialing, Routing,** or **Extension** **IO-1**..**IO-12, None** Default: **IO-1**
Port Type	Enabled when **Action = Zone, Node, ShortDialing, Routing,** or **Extension** **External, Internal, LinkSelector, Encapsulator** Default: **External**
DLCI	Enabled when **Action = Zone, Node, ShortDialing, Routing,** or **Extension** **1, 16**..**991**
[Add]	Inserts row in table after selected row If no row is selected, new row will be added at the end of the table.
[Change]	Modifies the selected row
[Remove]	Removes selected row from the database
[Set]	Saves changes and closes the dialog box

Setting Redundancy Table Parameters

The **Redundancy Table** command enables you to set redundancy parameters for the MP-2100H.

➤ **To view redundancy table parameters:**

1. Select **Configuration > Redundancy Table**.

   Information can be sorted by Redundancy Mode, Primary Slot, or Secondary Slot by clicking on that column's header. Redundancy Mode will display the parameters in the following order: Y Cable, Dual Cable AIS, Dual Cable Parallel Tx. Additionally, every group will be displayed according to Primary Slot and Port ascending order.

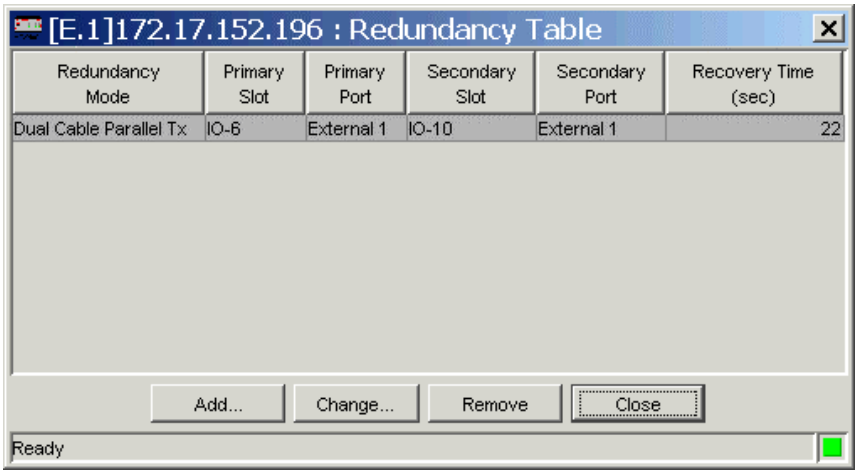


Figure 2-22. Redundancy Table Dialog Box

2. Add or modify rows as follows:
   Click **<Add…>** to add a new row
   Or
   Select a row and click **<Change…>** to modify the information in the selected row
   Or
   Select a row and click **<Remove>** to remove the selected row.

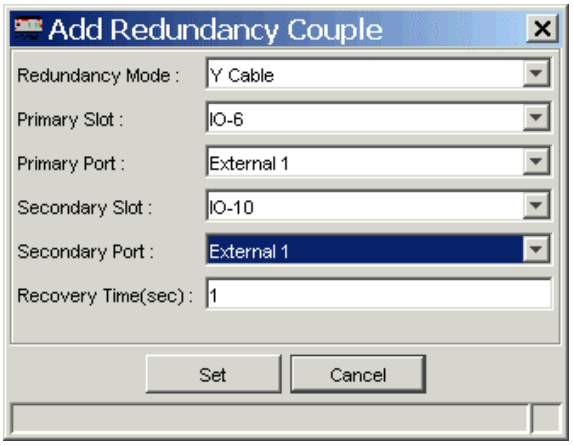


Figure 2-23. Add Redundancy Couple Dialog Box

3. Enter parameters for the Redundancy Table and click <**Set**>.

Table 2-12. Redundancy Table Parameters

Parameter	Possible Values / Remarks
Redundancy Mode	Redundancy Mode for the card **Y Cable, Dual Cable AIS and Dual Cable Parallel Tx** Default: **Y Cable**
Primary Slot	Primary Slot for the card **IO-1**..**IO-12**
Primary Port	Primary Port for the card **External 1..External 2, Internal 1**
Secondary Slot	Secondary Slot for the card **IO-1**..**IO-12**
Secondary Port	Secondary Port for the card **External 1..External 2, Internal 1**
Recovery Time (sec)	Recovery time in seconds **1**..**99**
[Add]	Inserts row in table after selected row If no row is selected, new row will be added at the end of the table.
[Change]	Modifies the selected row
[Remove]	Removes selected row from the database
[Set]	Saves changes and closes the dialog box

Polling the Agent

You can manually poll the agent at any time. This allows you to poll the agent immediately without having to wait until the next automatic polling interval.

➤ **To manually poll the agent:**

- Select **Configuration > Poll Agent**.

  The system polls the agent immediately.

Displaying Sanity Check Results

Figure 2-24. Fault Menu

In the Megaplex Hybrid Level of the Edit Configuration, you can display the results of the Megaplex Hybrid's latest sanity check.

➤ **To display the latest sanity check results:**

- Select Fault > Sanity Check Errors…

  The Sanity Check Error List appears displaying a list of errors and/or warnings detected during the latest sanity check.

  If the latest sanity check detected no errors, the message "**NO SANITY ERRORS"** appears.

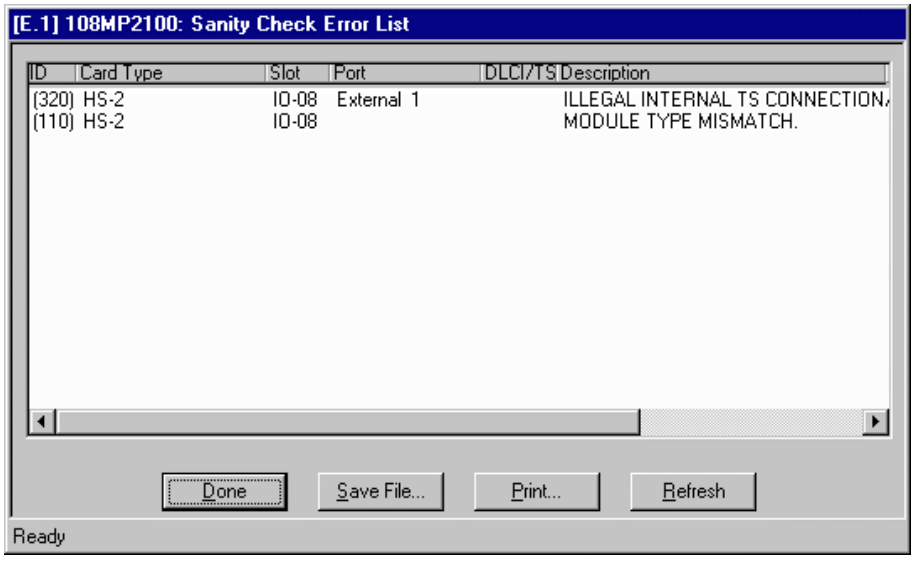


Figure 2-25. Sanity Check Error List

Table 2-13. Sanity Check Error Parameters

Parameter	Possible Values
ID	Index number for the error in the Sanity Check Error List
Card Type	Type of card in which the error was detected
Slot	Slot in which the error was detected
Port	Port in which the error was detected
DLCI/TS	Timeslot in which the error was detected
Description	Brief description of the error
[Save File…]	Click <**Save File…**> to save the Sanity Check Errors List in a file. The Save dialog box appears. Enter path and filename, then choose a file type and click <**OK**>. You can save the file as an Adobe Acrobat document (.pdf), an HTML file (*.htm), or a text file (.sce). ***Note**: To view an Adobe Acrobat file, you must have the Adobe Acrobat software installed on your computer.*

Displaying the Agent View

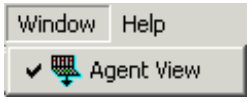


Figure 2-26. Window Menu

If only the Edit Configuration is displayed on the screen, you may also display the Agent view. This command is only available when there is communication with the Megaplex Hybrid.

➤ **To display the Agent view of the application window:**

- Select **Window > Agent View**

  Or

  Click the **Agent View** toolbar button  .

  The actual agent configuration appears below the Edit Configuration view.

2.3 Agent Configuration Mode Operations

In the Agent mode, you can display configuration information for the current Megaplex Hybrid configuration at the Megaplex Hybrid, Card, and Port Levels. Data accessed in the Agent mode may be used for comparison and analysis when adjusting parameters in the Edit Configuration view.

You can display active alarms and a history log for the Megaplex Hybrid, cards, and ports. In addition, you can view and analyze port statistics at the management station from the Agent mode.

The Megaplex Hybrid interface displays a rear panel view of all the device's slots. If a card is installed, the rear panel of the card is displayed, along with the card's name. If an unknown card is installed, the rear panel displays "**?**" (unknown). Any of the slot positions can be selected. Only correctly installed slot positions can be monitored and zoomed.

When selected, if a slot in the agent is correctly installed, a light blue frame surrounds it. If it is incorrectly installed, a red frame surrounds it.

Configuration Operations

There are several system level configuration operations in Agent Mode.

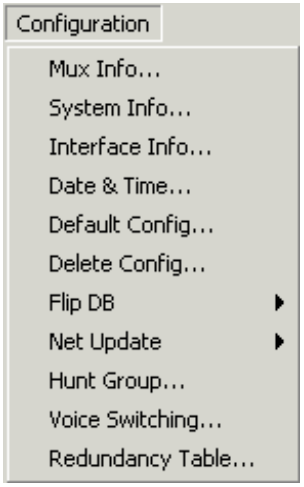


Figure 2-27. Configuration Menu

Note *Menu entries appear gray if there is no communication with the Agent or if the menu option is not relevant.*

Error! Not a valid bookmark self-reference. lists the different management options for the system level.

Table 2-14. System Management Options

Tasks - Configuration	**Dialog Box and Parameter Location**	**Path**
Displaying Mux timing information	Mux Information dialog box (*Figure 2-28*)	Configuration ➥Mux Info…
Displaying system information Setting voice level offset	System Information dialog box (*Figure 2-29*)	Configuration ➥System Info…
Displaying interface information	Interface Information dialog box (*Figure 2-30*)	Configuration ➥Interface Info…
Setting Date & Time	Date and Time Setup dialog box (*Figure 2-31*)	Configuration ➥Date & Time…
Setting default configuration	Default Config dialog box (*Figure 2-32*)	Configuration ➥Default Config…
Deleting an agent configuration	Delete Config dialog box (*Figure 2-33*)	Configuration ➥Delete Config…
Displaying flip DB agenda	Flip DB Agenda dialog box (*Figure 2-35*)	Configuration ➥Flip DB ➥Agenda…
Displaying flip DB net events	Flip DB Net Events dialog box (*Figure 2-36*)	Configuration ➥Flip DB ➥Net Events…
Displaying flip DB decision table	Flip DB Decision table (*Figure 2-38*)	Configuration ➥Flip DB ➥Decision Table…
Setting net update delay	Net Update Delay dialog box (*Figure 2-40*)	Configuration ➥Net Update ➥Delay…
Activating net update	See *Activating a Net Update*, page *2-35*	Configuration ➥Net Update ➥Activate
Displaying Hunt Group	Hunt Group Dialog Box (*Figure 2-41*)	Configuration ➥Hunt Group…
Displaying Voice Switching Parameters	Voice Switch Table (*Figure 2-42*)	Configuration ➥Voice Switching…
Displaying redundancy parameters	Redundancy Table (*Figure 2-43*)	Configuration ➥Redundancy Table…

Displaying Megaplex Hybrid Software Information

The Mux Info command allows you to view current Megaplex Hybrid configuration information.

➤ **To display the current Megaplex Hybrid status and unit configuration:**

- Select **Configuration > Mux Info…**

  Or

  Click the **Mux Info** button .

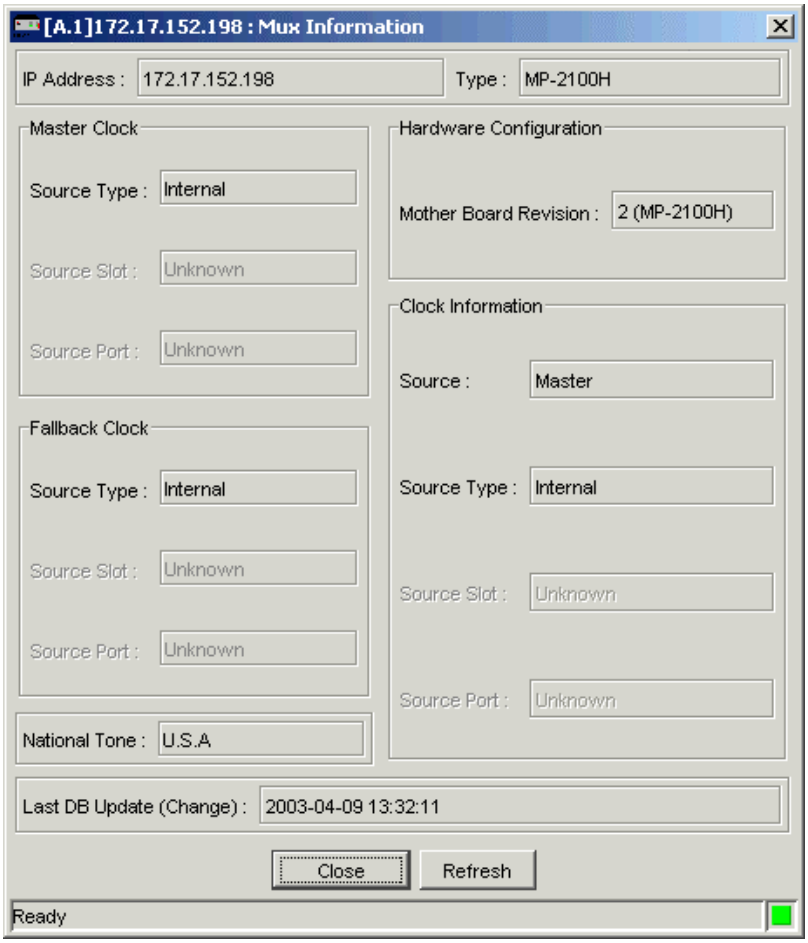


Figure 2-28. Mux Information Dialog Box

Table 2-15. Mux Information Parameters

Parameter	Possible Values
IP Address	IP Address of the Megaplex Hybrid
Type	The type of Megaplex Hybrid **MP-2100H, MP-2104H**
National Tone	**Australia, Brazil, Canada, China, Czechoslovakia, France, Germany, Israel, Mexico, Portugal, Russia, Spain, United Kingdom, USA, No Tone**
Last DB Update (Change)	Date and Time

Parameter	Possible Values
Master Clock	
Source Type	Main source for Megaplex Hybrid timing **Internal, Rx Clock**
Source Slot	The slot containing the card on which the master clock is located. This parameter is applicable only when the master clock source type is **Rx Clock**. **IO-1..IO-12** Empty slots are not selectable For MP-2104H: **IO-1..IO-5**
Source Port	The port through which the master clock signal is received by the Megaplex Hybrid. This parameter is applicable only when the master clock source type is **Rx Clock**. **external-1..external-12**
Fallback Clock	
Source Type	Alternate source for the Megaplex Hybrid timing, to be used in case the master clock fails **Internal, Rx Clock**
Source Slot	The slot containing the card on which the fallback clock is located. This parameter is enabled only when the fallback clock source type is **Rx Clock**. **IO-1..IO-12** Empty slots are not selectable. For MP-2104H: **IO-1..IO-5**
Source Port	The port through which the fallback clock signal is received by the Megaplex Hybrid. This parameter is applicable only when the master clock source type is **Rx Clock**. **external-1..external-12**
Hardware Configuration	
Mother Board Revision	Revision number
Clock Information	
Source	**Master, Fallback, Internal**
Source Type	**Internal, Rx Clock**
Source Slot	The slot containing the card on which the fallback clock is located. This parameter is enabled only when the fallback clock source type is **Rx Clock**. **IO-1..IO-12** Empty slots are not selectable. For MP-2104H: **IO-1..IO-5**
Source Port	The port through which the fallback clock signal is received by the Megaplex Hybrid. This parameter is applicable only when the master clock source type is **Rx Clock**. **external-1..external-12**.

Displaying System Information

The System Info command displays physical information about the current Megaplex Hybrid.

➤ **To display system information:**

1. Select **Configuration > System Info...**

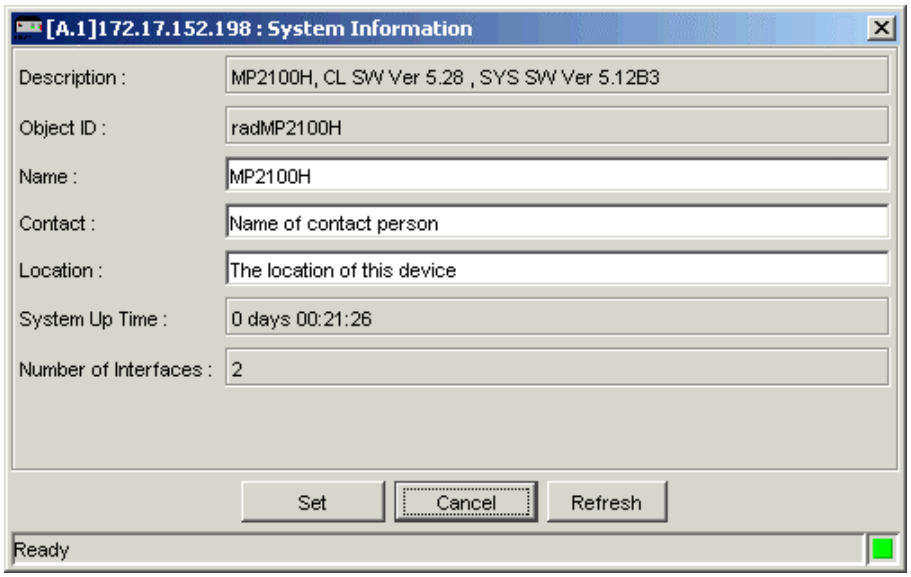


Figure 2-29. System Information Dialog Box

2. You may update **Name**, **Contact,** and **Location**.
3. Click <**Set**>.

Displaying Interface Information

The Interface Info command displays information about the Megaplex Hybrid connection to the management station.

➤ **To view Megaplex Hybrid interface information:**

- Select **Configuration > Interface Info…**

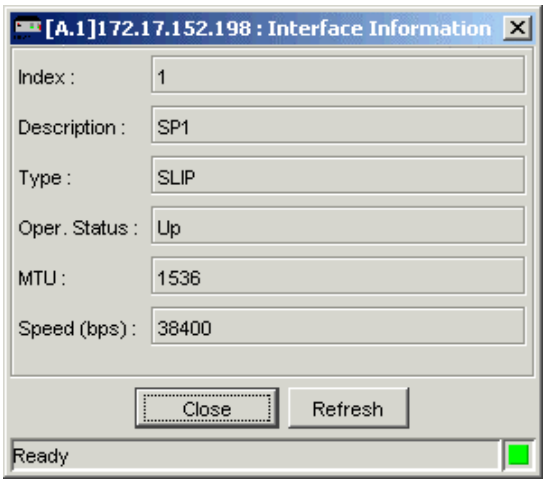


Figure 2-30. Interface Information Dialog Box

Table 2-16. Interface Information Parameters

Parameter	Possible Values / Remarks
Index	Index number of the supervisory port connecting the Megaplex Hybrid with the network management station
Description	Brief description of the management interface
Type	Communications protocol running on the management interface
Oper. Status	Operational status of the management interface: **Up**, **Down** or **Testing**
MTU	Maximum Transmission Unit - size (in octets) of the largest packet that can be transmitted/received on the management interface
Speed (bps)	Data rate of the management interface in bps

Setting the Agent Date and Time

The Date & Time command allows you to set the date and time of the Megaplex Hybrid's real-time clock.

➤ **To set the Megaplex Hybrid date and time:**

- Select **Configuration > Date & Time**.

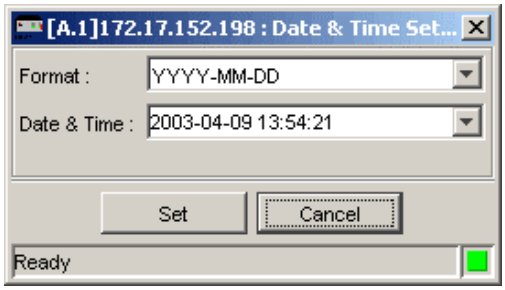


Figure 2-31. Date and Time Setup Dialog Box

Table 2-17. Interface Information Parameters

Parameter	Possible Values / Remarks
Format	European format (**DD-MM-YYYY**), American format (**MM-DD-YYYY**), or (**YYYY-MM-DD**), where DD = day, MM = month, and YYYY = year
Date & Time	Date and Time, according to the Megaplex Hybrid's real-time clock

Setting the Default Configuration

The Default Config command allows you to select one of the Megaplex Hybrid's saved configurations as the default configuration. If automatic Flip DB is not activated, this default configuration is the Megaplex Hybrid 's current configuration.

➤ **To select the Default Configuration:**

1. Select **Configuration > Default Config…**

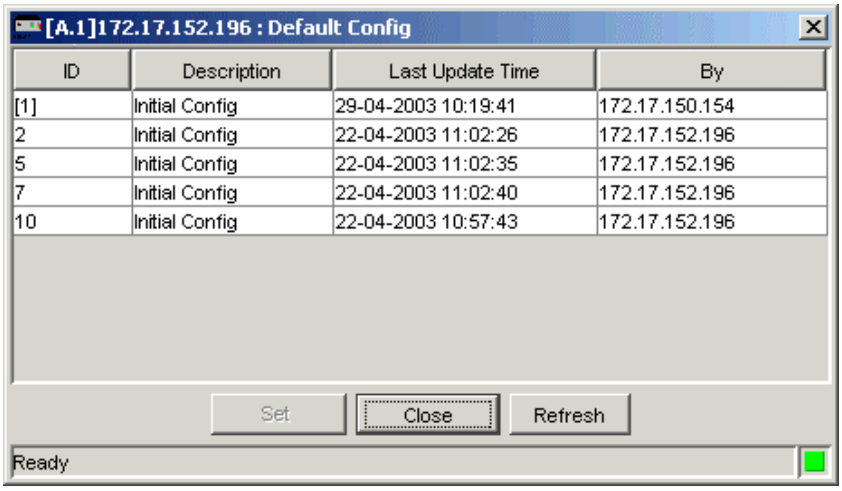


Figure 2-32. Default Config Dialog Box

2. Select the entry describing the configuration that you want to set as the default.
3. Click <**Set**>.

   A message stating, "For activation, select [E] Configuration> Flip DB> Update" appears.
4. Click <**OK**> to confirm.

   The selected default configuration is stored in the Megaplex Hybrid's temporary configuration until you perform the **Flip DB>Update** operation (refer to *Updating (Downloading) the Configuration to the Agent*, Page *2-1*). If automatic Flip DB is not activated, this default configuration is the Megaplex Hybrid's current configuration.

Table 2-18. Default Config Parameters

Parameter	Possible Values / Remarks
ID	Index number of a Megaplex Hybrid configuration. The current default configuration number is surrounded by **[ ]**.
Description	Description of the configuration ID as entered during the last update procedure
Last Update Time	Date & Time of the configuration's last update according to the agent's real-time clock
By	IP address of the manager who last updated this configuration

Deleting an Agent Configuration

The Delete Config command allows you to delete a configuration from the Megaplex Hybrid Agent Mode's CL card. This command is not available for a configuration that either appears in the Flip DB Decision Table or is the default configuration.

➤ **To delete an agent configuration:**

1. Select **Configuration > Delete Config…**

   The Delete Configuration dialog box appears displaying a list of saved Megaplex Hybrid configurations that do not appear in the Flip DB Decision Table or are not the current default configuration.

2. Select the entry describing the configuration you want to delete.
3. Click <**Delete**>.

   The system requires confirmation of the delete.

4. Click <**OK**> to confirm.

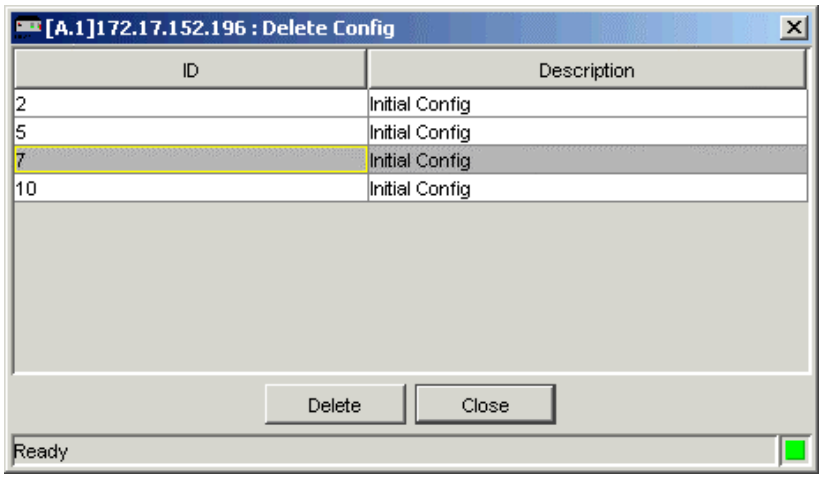


Figure 2-33. Delete Config Dialog Box

Displaying Flip DB Parameters

The Flip DB command opens a submenu that includes commands for viewing parameters for flipping configurations.

Figure 2-34. Flip DB Submenu

Displaying the Weekly Agenda

The Agenda command displays information about the type of workday for each day of the week. The type of workday helps determine the times of automatic activation for the Flip configuration.

➤ **To display the Flip DB Agenda:**

- Select **Configuration > Flip DB > Agenda…**

  The Flip DB Agenda dialog box displays a weekly schedule. Each day of the week corresponds to a day type. A day type can be **Full Workday**, **Partial Workday** or **Weekend**.

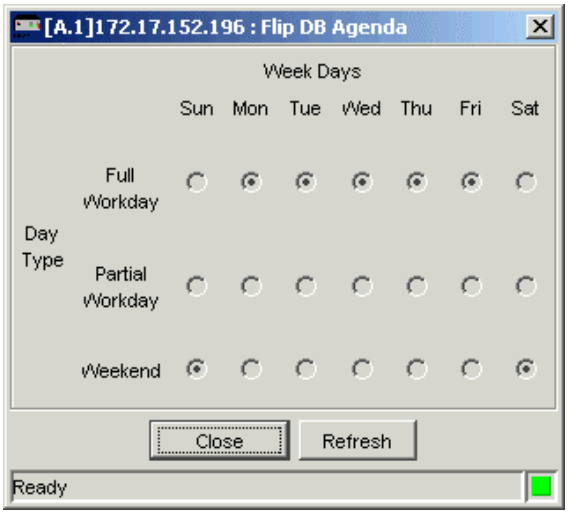


Figure 2-35. Flip DB Agenda Dialog Box

Displaying Flip DB Net Events

The Net Events command displays information about the events that occur during the automatic configuration flip.

➤ **To display the Net Events dialog box:**

- Select **Configuration > Flip DB > Net Events**.

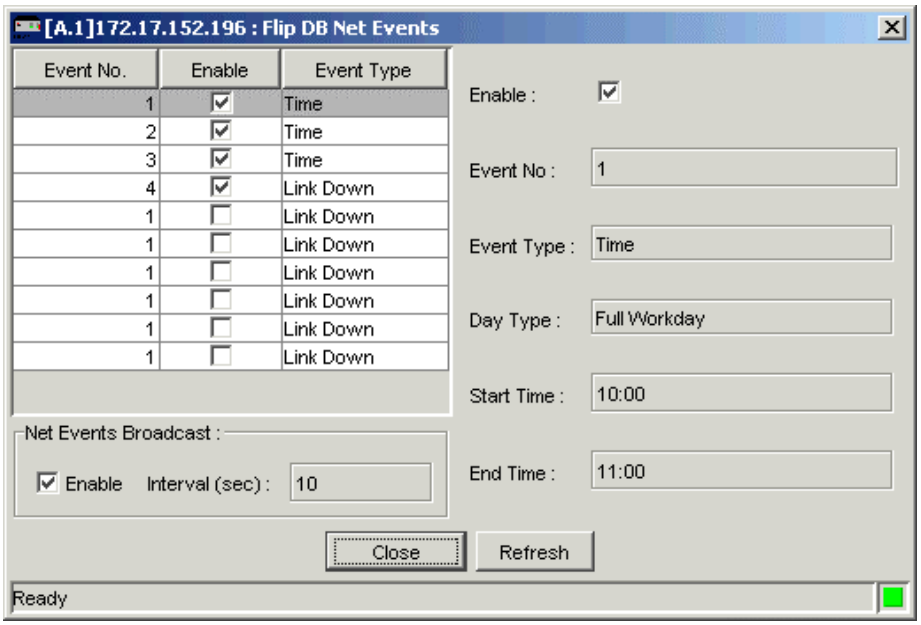


Figure 2-36. Flip DB Net Events Dialog Box Event Type = Time, Day Type = Full Workday

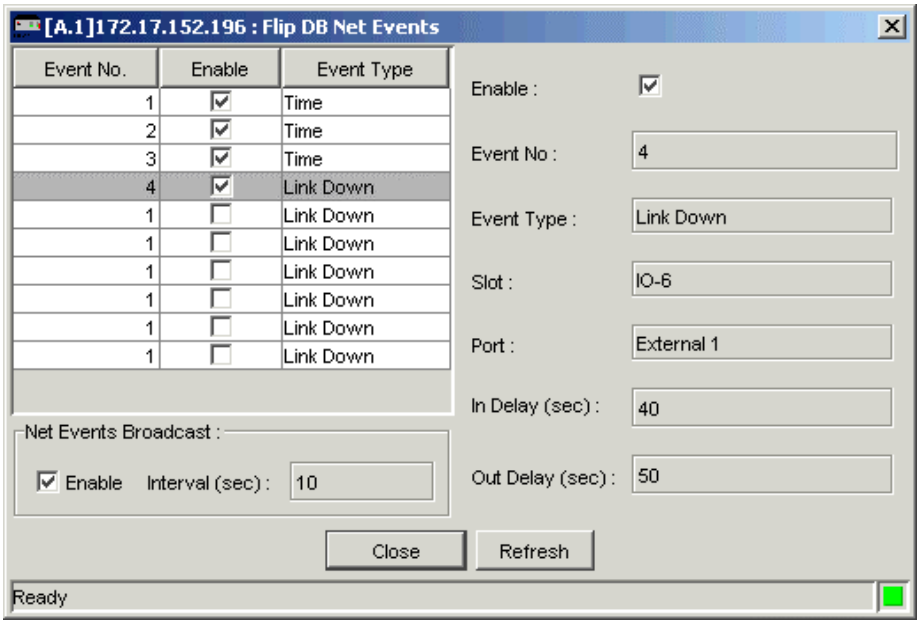


Figure 2-37. Flip DB Net Events Dialog Box Event Type = Link Down

Table 2-19. Flip BD Net Events Parameters

Parameter	Possible Values
Event No.	The net event code number. This number is unique for a particular type of event over the entire net. This prevents usage of the same number by more than one type of event. The available options are **1** to **511**.
Enable	√ in the Enable column indicates that an entry is valid. To add or modify parameters of a net event, click the Enable checkbox (√) on the right side of the dialog box. To delete/cancel an entry, you must first remove the √.
Event Type	Type of event. The available options are **Time**, **Interface Down** and **Congestion**. Congestion events are applicable only to Packet Switch ports. ***Note:*** *You can enable only one Time Event per Day Type. Enabling more than one Time Event per Day Type causes a failure when you try to save the Flip DB to the Megaplex Hybrid (Flip DB Update).* For **Event Type=Time**, you can set the following parameters: **Day Type -** The type of day as determined in the Flip DB Agenda. **Full Workday, Partial Workday, and Weekend**. **Start Time -** Time at which RADview activates the event. **End Time -** Time at which RADview deactivates the event **Note:** Start Time must be before the End Time For **Event Type=Link Down**, you can set the following parameters: **Slot -** Slot in the Megaplex Hybrid in which the selected net event occurs. **IO-1..IO-12** **Port -** Port in the Megaplex Hybrid in which the selected net event occurs **external-1 to external-16, internal-1..internal-48** (depending on the type of card) **In Delay (sec) -** Delay time between the reporting of a net event as ON and the actual occurrence of the event **1 to 999** **Out Delay (sec) -** Delay time between the reporting of a net event as OFF and the actual termination of the event **1 to 999**

Decision Table

The Decision Table displays combinations of events that will cause RADview to flip automatically to a specific configuration.

➤ **To display the Decision Table:**

- Select **Configuration > Flip DB > Decision Table…**

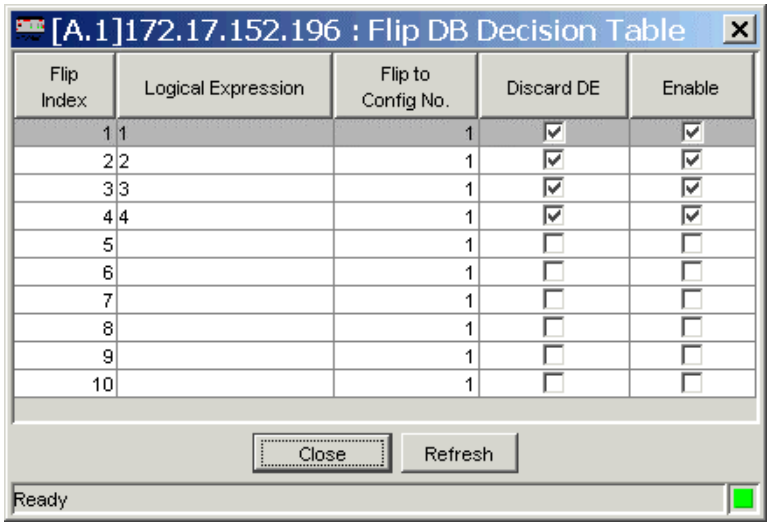


Figure 2-38. Flip DB Decision Table

Each entry in the Flip DB Decision Table defines a combination of events that cause a specific Flip DB action. The table contains the following parameters:

Table 2-20. Flip DB Decision Table Parameters

Parameter	Possible Values / Remarks
Flip Index	Index number of the entry in the Table according to the order of priority. For example, suppose that multiple event combinations causing flipping to more than one configuration occur at the same time. RADview will activate the entry that comes first in the Decision Table. **1..10**
Logical Expression	Combination of net events which, if they occur, cause RADview to flip to a specific Megaplex Hybrid configuration. The expression consists of event numbers and the following logical symbols (maximum of 19 characters): & - AND | - OR ! - NOT ( ) - Parentheses enclose a combination of events that comprises a single condition in the logical expression. For example, (2&51)|(!102&4) means that (event no. 2 exists AND event no. 51 exists) OR (event no. 102 does not exist AND event no. 4 exists). ***Note:*** *The logical expression cannot begin with a blank space.*
Flip to Config No.	ID number of the Megaplex Hybrid configuration that will be activated if the events written in the logical expression occur
Discard DE	**Yes, No**
Enable	Indicates that an entry is valid.

Activating Net Update

The Net Update command opens up a submenu that includes commands for setting and activating delay time, and for activating a Flip configuration in all Megaplex Hybrids in the net.

Figure 2-39. Net Update Submenu

Setting the Net Update Delay

The Delay command allows you to set the time required for all the Megaplex Hybrids in the net to activate the Flip configuration.

➤ **To set the net update delay:**

1. Select **Configuration > Net Update > Delay…**
2. Type the number of seconds required to activate the Flip configuration in the whole network.
3. Click <**Set**>.

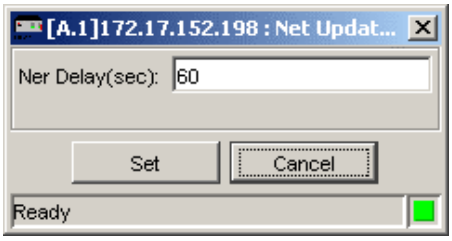


Figure 2-40. Net Update Delay Dialog Box

Activating a Net Update

The Activate command updates the current configuration or the flip configuration over the net.

➤ **To update the net configuration:**

1. Select **Configuration > Net Update > Activate**.

   The system requires confirmation of the update.
2. Click <**OK**> to confirm the net update operation.

Displaying Hunt Group Information

➤ **To display hunt group information:**

- Select **Configuration > Hunt Group...**

The Hunt Group dialog box contains the same fields in the Agent View as in the Edit Configuration View, except that in the Agent View the fields are read-only.

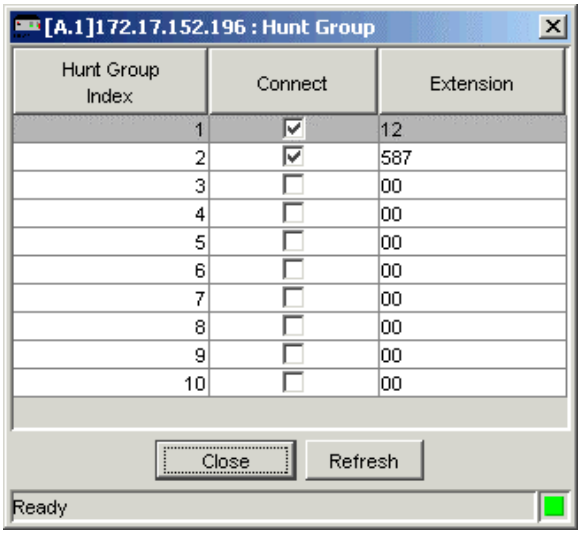


Figure 2-41. Hunt Group Dialog Box

Table 2-21. Hunt Group Parameters

Parameter	Possible Values / Remarks
Hunt Group Index	Number assigned by the Network Management Station to each hunt group **1..10**
Connect	Check indicates that the hunt group should be considered in any of the mux algorithms **Checked** (yes), **Unchecked**
Extension	Extension number of the hunt group **1..99 , NA**
[Close]	Closes the dialog box

Displaying Voice Switching Information

➤ **To display the voice switching table:**

- Select **Configuration > Voice Switching**.

  The Voice Switch Table dialog box contains the same fields in the Agent View as in the Edit Configuration View, except that in the Agent View the fields are read-only.

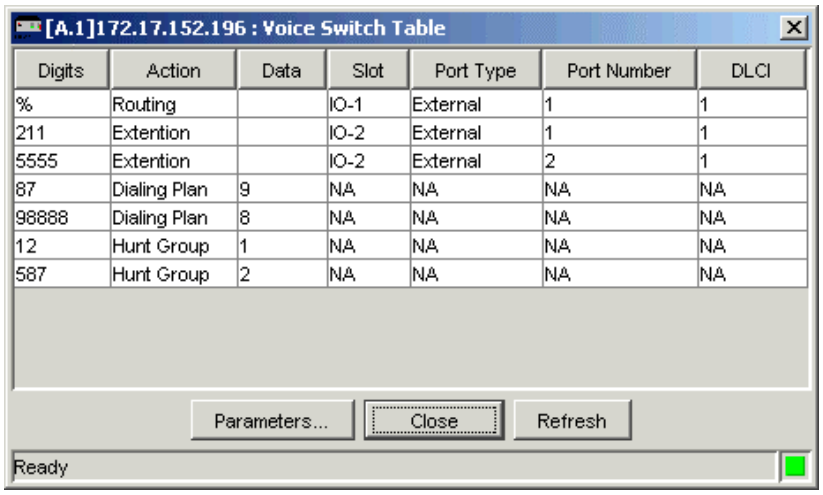


Figure 2-42. Voice Switch Table

Table 2-22. Voice Switch Parameters

Parameter	Possible Values / Remarks
Digits	**-- , up to 7 digits**
Action	Action system performs for these digits **HGR**=hunt group **Del**=delete **Rep**=replace **Zone, Node, Internal, Short Dialing, Hunt Group, Delete, Replace, Dialing Plan, Routing, Extension**
Data	Hunt Group Index number When **Action** = **Hunt Group**, the Hunt Group number When **Action = Replace**, number of digits When **Action = Dialing Plan**, the number of digits to be collected before establishing the call. **--, up to 7 digits**
Slot	Enabled when **Action= Zone, Node, ShortDialing, Routing,** or **Extension** **IO-1..IO-12, None**
Port Type	Enabled when **Action = Zone, Node, ShortDialing, Routing,** or **Extension** **External, Internal, LinkSelector, Encapsulator**
Port Number	Enabled when **Action = Zone, Node, ShortDialing, Routing,** or **Extension** **1-45**
DLCI	Enabled when **Action = Zone, Node, ShortDialing, Routing,** or **Extension** **1, 16..991**
[Refresh]	Updates the dialog box with the latest information
[Close]	Closes dialog box

Viewing Redundancy Table Parameters

The **Redundancy Table** command enables you to view redundancy parameters for the Megaplex 2100H/2104H.

➤ **To view redundancy table parameters:**

- Select **Configuration > Redundancy Table...**

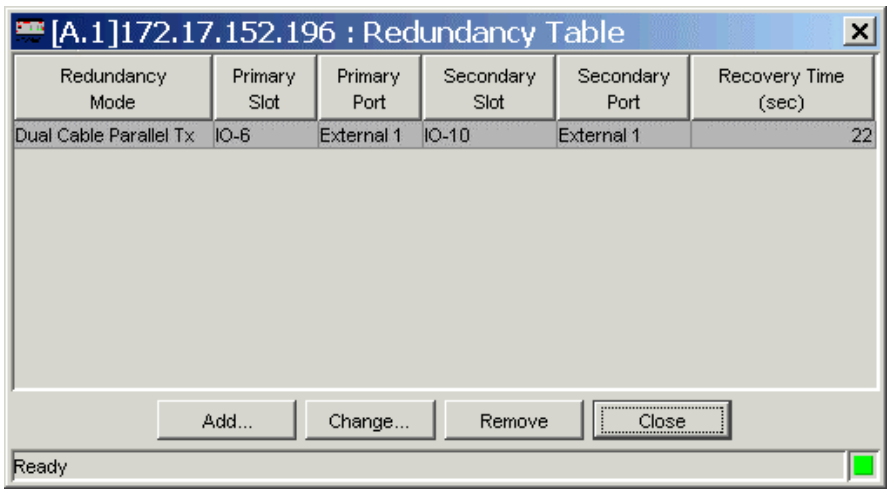


Figure 2-43. Redundancy Table

Table 2-23. Redundancy Table Parameters

Parameter	Possible Values / Remarks
Redundancy Mode	Redundancy Mode for the card **Y Cable, Dual Cable AIS and Dual Cable Parallel Tx** Default: **Y Cable**
Primary Slot	Primary Slot for the card **IO-1**..**IO-12**
Primary Port	Primary Port for the card **External 1..External 2, Internal 1**
Secondary Slot	Secondary Slot for the card **IO-1**..**IO-12**
Secondary Port	Secondary Port for the card **External 1..External 2, Internal 1**
Recovery Time (sec)	Recovery time in seconds **1**..**99**
Rdn Online	**Primary, Secondary**
[Refresh]	Refreshes data
[Close]	Closes dialog box

Information can be sorted by Redundancy Mode, Primary Slot, or Secondary Slot by clicking on that column's header. Redundancy Mode will display the parameters in the following order: Y Cable, Dual Cable AIS and Dual Cable Parallel Tx. Additionally every group will be displayed according to Primary Slot and Port ascending order.

Defining the Manager List

Figure 2-44. Options Menu

The Manager List displays the manager station addresses that can receive Megaplex Hybrid traps.

➤ **To display the Manager List:**

- Select **Options > Manager List**.

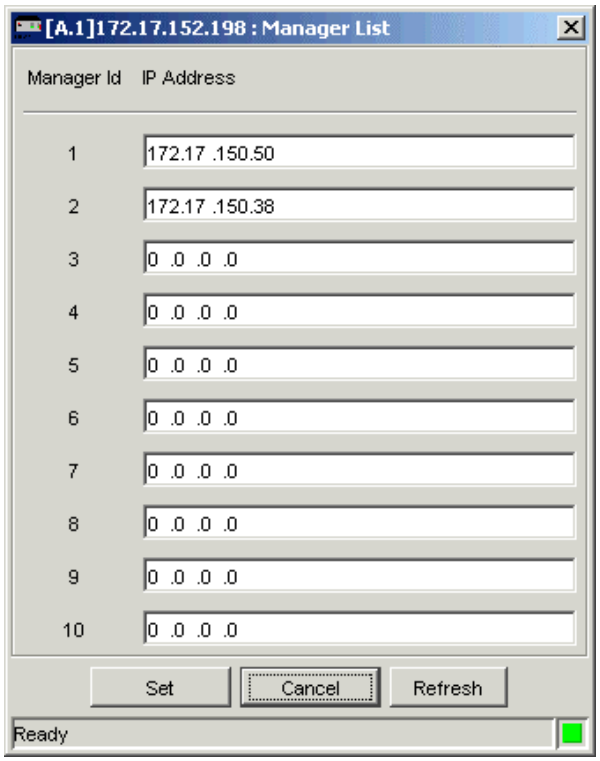


Figure 2-45. Manager List

Table 2-24. Manager List Parameters

Parameter	Possible Values / Remarks
Manager ID	Index number of the management station in the table Although the Manager List dialog box shows 10 entries, the Megaplex Hybrid agent supports only a maximum of five management stations that can receive traps.
IP Address	IP address of the management station

➤ **To update the Manager List:**

1. Click an entry that you want to change or a line without an IP Address.
2. In the **IP Address** column, type the IP Address of the management station.
3. Click <**Set**>.

Chapter 3

Card and Port Management

This chapter describes the various management operations in both Edit and Agent modes that are available for the cards and ports supported by the RV-EMS/TDM Megaplex-2100H/2104H.

3.1 Viewing and Modifying Cards

The RV-EMS/TDM Megaplex-2100H/2104H user interface has two modes of operation: Edit Configuration and Agent Configuration. You must be in Edit Mode to modify card configuration information. You can view the current configuration settings in Agent Mode.

Edit Configuration is always available by clicking on the border of the top hub in the window. To enable Agent Configuration, you must select it from the Window menu and then click on the border of the bottom hub in the window.

➤ **To display the Agent view of the application window:**

- Select **Window > Agent View**

  Or

  Click the **Agent View** toolbar button  .

  The actual Agent Configuration appears below the Edit Configuration view. Menu and toolbar options vary depending on the mode of operation.

3.2 Edit Card Level Configuration Operations

RADview provides management and monitoring functions at the Card Level in Edit Mode. In the Megaplex Hybrid (system) Level, you select a card by clicking or double-clicking it. A blue border outlines a selected card. Double-clicking a card opens the Card Layout View of the selected card.

Table 3-1 lists the different management options for the card level.

Note *Card Level Configuration menu options are dependent upon the selected card. You cannot copy or zoom in on PS cards, empty slots, unknown cards, and CL cards. For MP 2104, you cannot remove a PS card.*

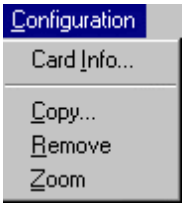


Figure 3-1. Configuration Menu

Table 3-1. Card Level Management Options

Tasks - Configuration	Dialog Box and Parameter Location	Path
Adding a new card in the mux	New Card dialog box (see *Adding a New Card, page 3-2*)	Configuration ➥Add Card
Displaying card information	Card Information dialog box (*Figure 3-4*)	Configuration ➥Card Info…
Copying card's configuration	Copy Card dialog box (*Figure 3-5*)	Configuration ➥Copy
Removing a card	See *Removing a Card, page 3-6*	Configuration ➥Remove
Displaying card layout view	Card Layout View (*Figure 3-6*)	Configuration ➥Zoom

Adding a New Card

Figure 3-2. Empty Slot Configuration Menu

The **Add Card** command allows you to program a new card configuration in an empty slot in the Edit Configuration mode.

➤ **To add a new card to the configuration:**

1. In the Edit Configuration mode, click an empty slot.
2. Select **Configuration > Add Card**

   Or

   Click the **Add Card** button  .

   The New Card dialog box appears containing the number of the selected slot and a list of all cards supported by the current Megaplex Hybrid that are appropriate for that type of slot.

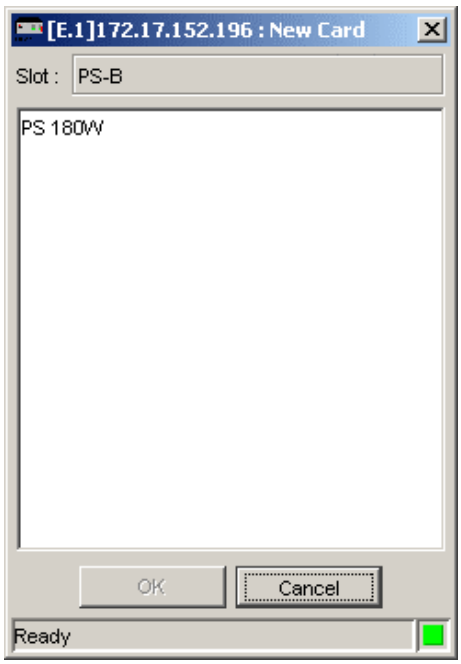


Figure 3-3. New Card Dialog Box

3. From the New Card list, select the required card type. If necessary, drag the scroll bar to view other card names.
4. Click <**OK**>.

   The selected card is added to the current slot in all existing Edit Configurations.

The following card types are available for the MP-2100H:

Power Supply Cards:

PS-180W

Common Logic Cards

MCL-2/ETH

Hybrid Cards

MVC-8N	MVC-8-SLAVE	MVC-8/T1-DSU-FRAMER
MVG-1-LAN	LS-6N	

TDM Cards

MTML-1/T1 (DSU)	MTML-1/T1 (CSU)	HS-DP
HS-Q/N	HS-R	VC-6/E&M
VC-6/FXO	VC-6/FXS	
Unknown		

Displaying Card Information

The **Card Info** command displays physical configuration information about the selected card.

Note *The card information, parameter values, and defaults displayed vary depending on the card selected.*

➤ **To display information about the selected card:**

1. Select the card in the mux.
2. Select **Configuration > Card Info…**
   Or
   Click the **Card Info** button .

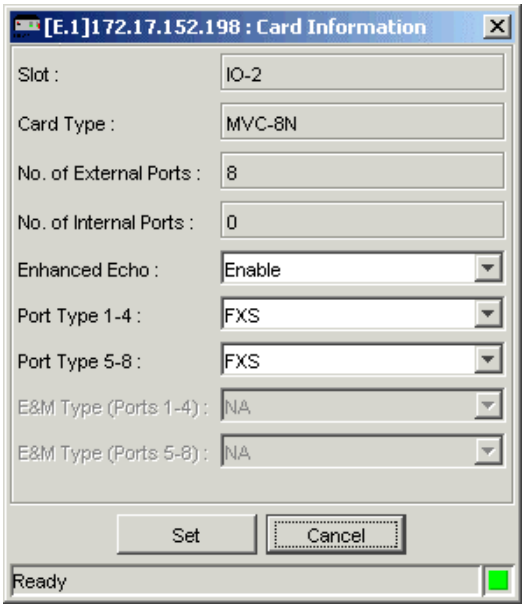


Figure 3-4. Card Information Dialog Box (Sample)

Table 3-2. Card Information Parameters

Parameter	Possible Values
Slot	Slot in which the selected card is inserted
Card Type	Type of the selected card
No. of External Ports	Number of external ports in the selected card
No. of Internal Ports	Number of internal ports in the selected card
Enhanced Echo	**disabled, enabled, 16ms, 32ms**
Port Type 1-2	**E&M, FXO, FXS**
Port Type 3-4	**E&M, FXO, FXS**
Time Slot	**1-6** (T1), **1-8** (E1)
Slot of Framer	**IO-1..IO-12**
Out of Service	**Forced Idle, Forced Busy, Busy Idle, Idle Busy**
E&M Type	**type1, type2, type3, ssdc5**
Port Type 5-8	**type1, type2, type3, ssdc5**
LAN IP Address	**192.168.205.1..255.255.255.255**
LAN IP Mask	**0.0.0.0..255.255.255.252**

Copying a Card's Configuration

The **Copy** command allows you to copy the selected card's configuration to a destination slot within the current Megaplex Hybrid or to another Megaplex Hybrid in the net.

➤ **To copy a card configuration to another slot:**

1. In the Edit Configuration mode, click the card whose configuration you want to copy.
2. Select **Configuration > Copy.**
3. Select the required copy parameters and click <**Set**>.

   The source configuration is copied to its destination(s).

   If the destination slot was previously empty, the new card type and its default values will be added to that slot in all existing Edit Configurations on the destination Megaplex Hybrid.

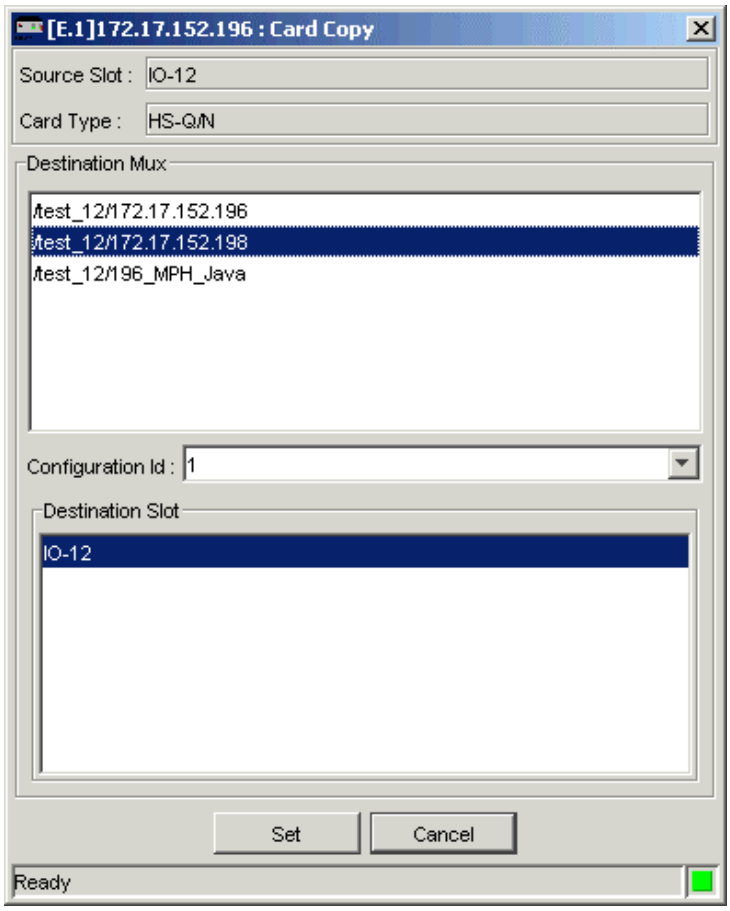


Figure 3-5. Copy Card Dialog Box

Table 3-3. Card Copy Parameters

Parameter	Possible Values
Source Slot	Slot in which the selected card is inserted
Card Type	Type of the selected card
Destination Mux	Destination Megaplex Hybrid unit
Configuration Id	ID number of an existing Edit Configuration in the destination Megaplex Hybrid
Destination Slot	Destination slot in the destination Megaplex Hybrid. Only empty slots or slots containing the same card type as the source card are available. ***Note:*** *You can select more than one destination slot by using standard Windows item selection methods (Click<CTRL>Click, Click<SHIFT>Click). Each destination slot will receive the same configuration.* A destination slot may contain data that affects or depends on data of other slots (for example, redundant MTML cards, LS-6 tandem cards, and so on). These conditions are not checked or processed further by RADview. You are responsible for checking and correcting such conditions.

Removing a Card

The **Remove** command deletes a card configuration from the selected slot in the Edit Configuration mode. If the card configuration exists in the same slot in other Edit Configurations of the current Megaplex Hybrid, the card configuration will be removed from all.

➤ **To remove a card from the Edit Configuration:**

1. Click the card you want to remove.
2. Select **Configuration > Remove**

   Or

   Click the **Remove** button  .

   A dialog box appears asking you to confirm the Remove operation.
3. Click <**OK**> to confirm.

Zooming to a Card View

You may display a more detailed view of a card, including individual ports.

➤ **To display the Card View:**

- Double click on a card in the mux or select a card and select **Configuration > Zoom**.

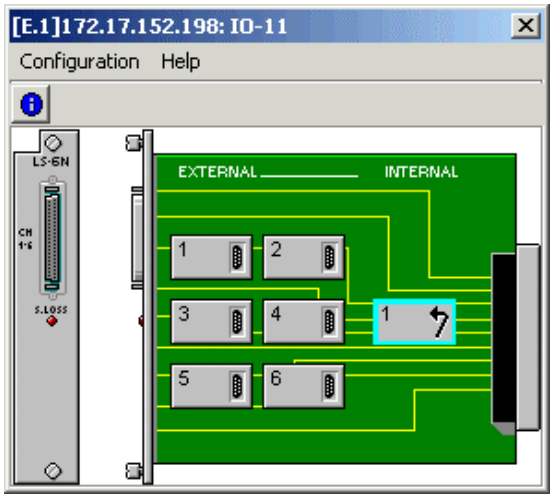


Figure 3-6. Card Layout View (Sample)

➤ **To exit the Card View:**

- Click ✕ in the upper right hand corner of the Card Layout View window.

3.3 Edit Port Level Configuration Operations

RADview allows you to perform network management on the Port Level. You select a port by clicking it in the card layout view. *Table 3-4* lists the different management options for port level.

Note *Port Level Configuration menu options are dependent upon the selected port. The contents of the Configuration menu of the card depend on the port selection: If the selected port is serial, voice, TDM-IO, etc., only the Port Info and Copy options are available (not applicable for MTML). If the selected port is TDM-ML (external-1 port of MTML), the Port Info..., Copy, TS Assignment and User Name options are available.*

Table 3-4. Port Level Management Options

Tasks - Configuration	Dialog Box and Parameter Location	Path
Setting port information	Port Information dialog box	Configuration ➥Port Info…
Copying port's configuration	Port Copy dialog box (*Figure 3-38*)	Configuration ➥Copy…
Setting Timeslots	Timeslots table (*Figure 3-40*)	Configuration ➥TS Assignment…
Setting User Name and Information	Port User Info dialog box (*Figure 3-39*)	Configuration ➥User Info…

Setting Port Information

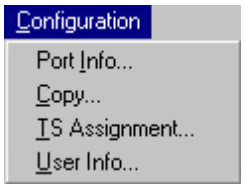


Figure 3-7. Configuration Menu

The **Port Info** command displays software configuration information about the selected port.

➤ **To display information about a port:**

- In the Card View, double click the port

  Or

  In Card View select the port and select **Configuration > Port Info**

  Or

  Click the **Port Info** button .

  General information and software configuration information can be displayed by selecting the various tabs. RADview supports several types of cards.

  The Port Information dialog box contains the following read-only parameters at the top: Slot, Port, and Card Type.

Configuring Port Information Parameters

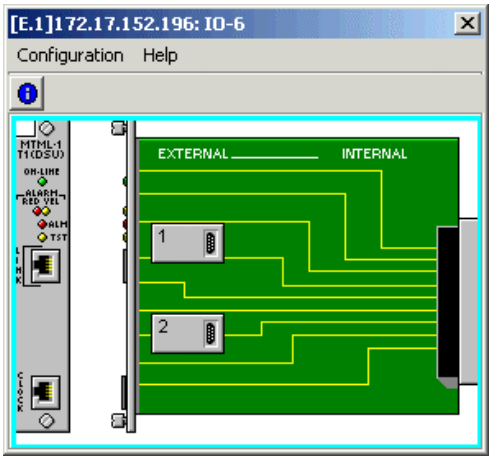


Figure 3-8. MTML-1/T1 Card Layout View

MTML-1/T1 (DSU), MTML-1/T1 (CSU) Port Configuration

➤ **To display port information of an MTML-1/T1 external port**

1. In the Edit Configuration mode, double-click an MTML-1/T1 card.
2. In the Card View, click a port and select **Configuration** > **Port Info**

   Or

   Click the **Port Info** button .

   The information appears under four tabs: **SW Cfg>>**, **<<SW Cfg**, **ML Rdn**, and **Connect**.

SW Cfg>> Tab 

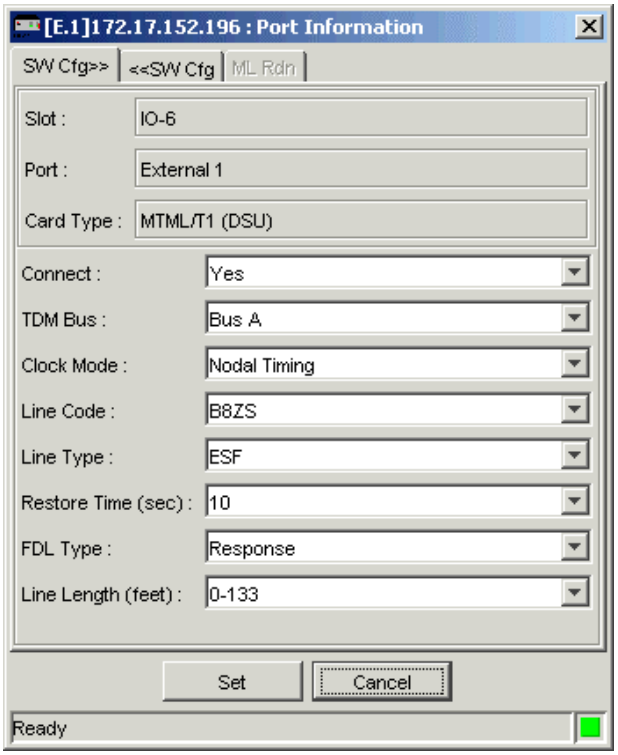


Figure 3-9. SW Cfg>> Parameters - MTML-1/T1 (DSU, CSU)

Table 3-5. SW Cfg>> Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No** , **Yes**
TDM Bus	The bus over which the MP-2100H transfers data from the TDM cards: **Bus_A, Bus_B**
Clock Mode	The clock operation mode of the interface: **Nodal Timing**
Line Code	The line code parameter of the interface: **B8ZS, B7, TRANS**
Line Type	**D4, ESF**
Restore Time (sec)	The time required in seconds to restore normal service after the end of a loss of synchronization condition: **1, 10**
FDL Type	The side of the FDL that the selected port is located. This parameter is only applicable if Frame is set to ESF **Response**: indicates the user side **Command**: indicates the PTT side
Line Length (feet)	The line length. This parameter is applicable only for T1/DSU cards **0-133, 134-266, 267-399, 400-533, 534-655, FCC-68**

<<SW Cfg Tab <<SW Cfg

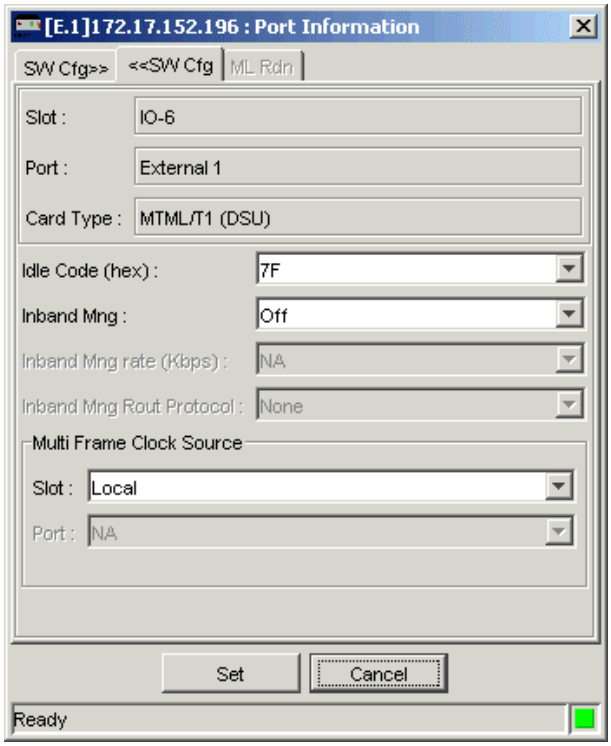


Figure 3-10. << SW Cfg Parameters - MTML-1/T1 (DSU, CSU)

Table 3-6. <<SW Cfg Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Idle Code	Hexadecimal code transmitted to fill idle (unused) timeslots in frames transmitted through the selected port **01..FF**
Inband Mng	Identifier of inband management over the link **Off, FDL or TS0, Dedicated TS, Dedicated TS/PPP, Dedicated FR**
Inband Mng Rate (Kbps)	Rate of inband management (if **inband mng** = **Off** then this paramter will be blank) **8, 16, 32, 64**
Inband Mng Rout Protocol	**None, RIP2, Proprietary**
TX Gain	Attenuation value that brings the signal level closer to the expected repeater signal level on the cable. This parameter is only applicable for T1 (CSU) cards. **0, 7.5, 15.0, 22.5 dBm**
RX Sensitivity	Rx line sensitivity of the selected port. This parameter is only applicable for T1 (CSU) cards. **26, 36 dBm**
Multi Frame Clock Source	The Multi Frame Clock Source group is used to bypass signaling of PCM voice channels.
Slot	Indicates whether the selected port's Tx multiframe is synchronized with the Rx multiframe of another port and its slot position. The slot must contain an MTML card. If the port is not connected to a TDM bus, this value is Local **Local, IO-1..IO-12**
Port	Port number in the Multi Frame Clock Source slot. This parameter is only applicable if the slot number is **IO-1..IO-12** **External-1**

Main Link Redundancy Tab ML Rdn.

The parameters of the Main Link Redundancy tab are read-only. They are described in *Table 2-12. Redundancy Table Parameters*.

Connect Tab Connect

Note *The Connection group parameters are available only if Mediation is set to Direct.*

Table 3-8. Connect Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Mediation	**Direct, Fractional**
Connect Type	TDM Service, TDM User
Connect Mux	MP-2100H in the net which is connected to the selected port
Connect Slot	Slot in the connected MP-2100H that is connected to the selected port **Unknown, IO-1..IO-15**
Connect Port	Port in the connected MP-2100H that is connected to the selected port Unknown, External 1..External 12, Internal 1..Internal 28

HS-R External Port Configuration

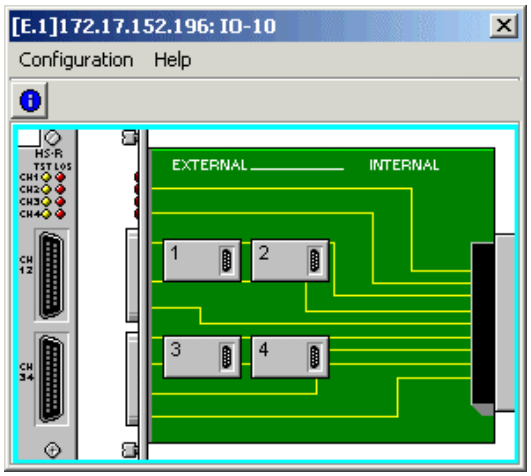


Figure 3-11. HS-R Card Layout View

➤ **To display port information of an HS-R card external port:**

1. In the Edit mode, double-click an HS-R card.
2. In the Card Layout View, double click the external port

   Or

   In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under one tab: **SW Cfg.**

Software Configuration SW Cfg

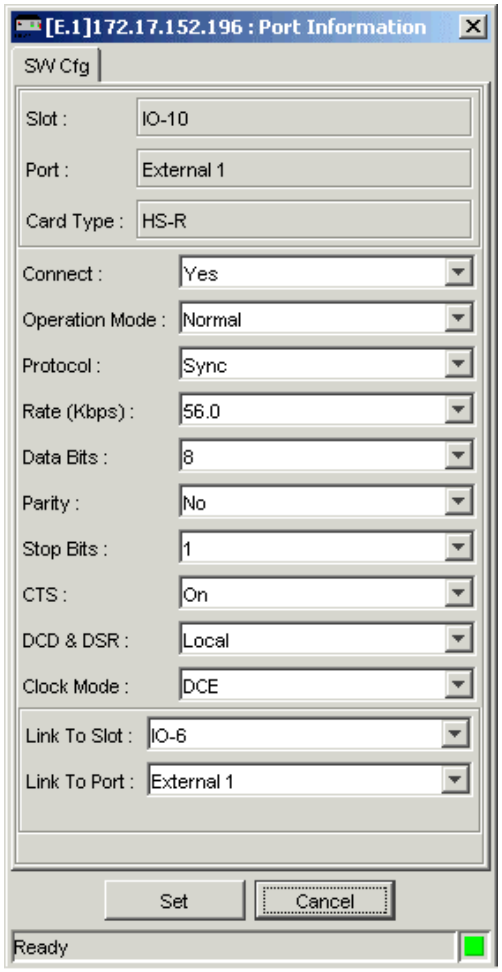


Figure 3-12. SW Cfg Parameters - HS-R Cards

Table 3-9. SW Cfg Tab - HS-R Cards

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No**, **Yes**
Operation Mode	**Normal, Unidirectional Rx, Broadcast**
Protocol	Type of protocol used in the selected port **Sync, Async**
Rate (Kbps)	The baud rate of the selected port depends on the Protocol value. If Protocol = Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4** kbps If Protocol = Sync: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 48.0, 56.0, 64.0** kbps
Data bits	This parameter is only applicable if Protocol = Async. **5, 6, 7, 8**

Parameter	Possible Values / Remarks
Parity	This parameter is only applicable if Protocol = Async. **Yes, No**
Stop Bits	This parameter is only applicable if Protocol = Async. **1, 2**
CTS	**On, RTS**
DCD & DSR	**Local, End to end**
Clock Mode	Indicates if the card receives or supplies timing. This parameter is only applicable if Protocol = Sync. **DCE, Ext DCE**
Link to Slot	**IO-1..IO-12**
Link to Port	**External 1..External 2, Internal 1**

MVC-8/T1-DSU-FRAMER Configuration - External Port

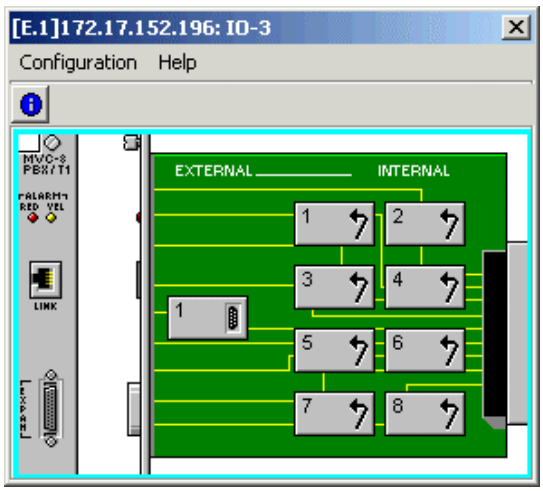


Figure 3-13. MVC-8/T1-DSU-FRAMER Card Layout View

➤ **To display the software configuration of an MVC-8/T1-DSU-FRAMER card external port:**

1. In the Edit **Configuration** mode, double-click an MVC-8/T1-DSU-FRAMER card.
2. In the Card Layout View, click the external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under one tab: **SW Cfg**.

SW Cfg Tab

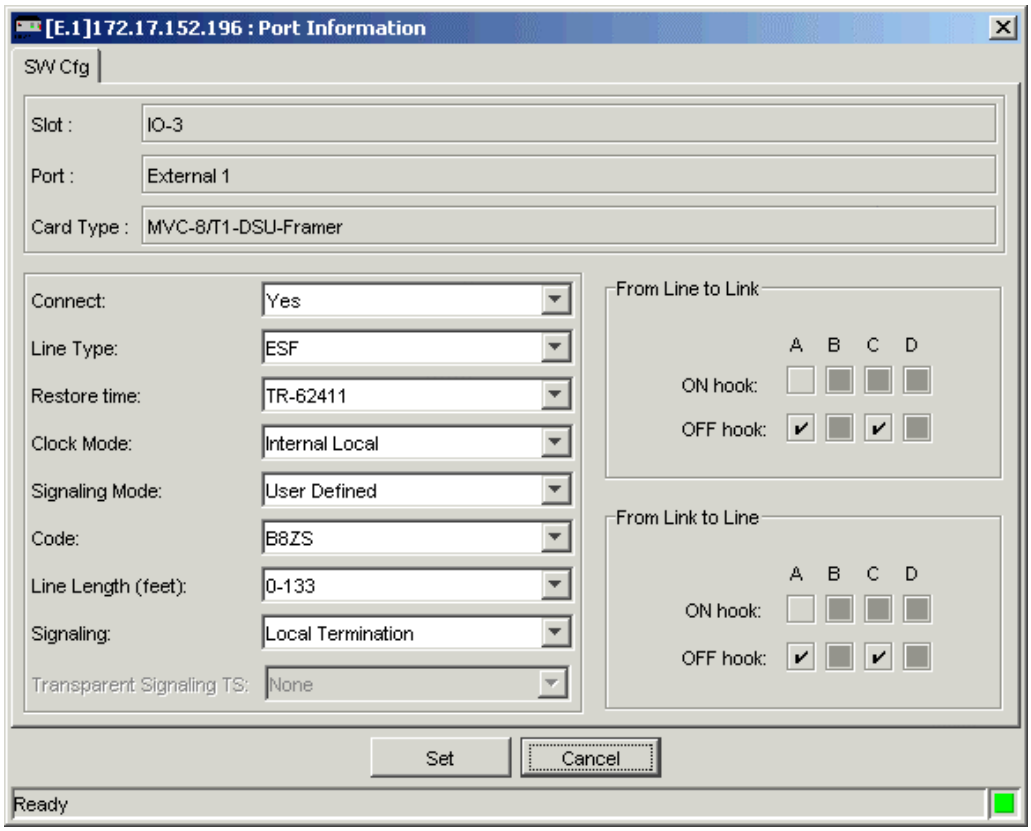


Figure 3-14. SW Cfg Tab Parameters - MVC-8/T1-DSU-FRAMER - External Port

Table 3-10. SW Cfg Tab - MVC-8/T1-DSU-FRAMER - External Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes** Default: **No**
Line Type	Line type of the interface **D4 (SF), ESF** Default**: ESF**
Restore Time	Time required to restore normal service after the end of a loss of synchronization condition **Fast, TR-62411** Default: **Fast**
Clock Mode	Clock operation mode of the interface **Internal, Loopback** Default: **Internal**
Signaling Mode	**Tie Trunk, Tie Invert, User Defined, CSS Transparent, No Signaling** Default: **Tie Trunk**

Table 3-11. SW Cfg Tab - MVC-8/T1-DSU-FRAMER - External Port (cont.)

Parameter	Possible Values / Remarks
Code	Line code parameter of the interface **B8ZS**, **B7**, **TRANS** Default: **B7**
Line Length (feet)	Line length **0-133, 134-266, 267-399, 400-533, 534-655, FCC68** Default: **0-133**
Signaling	**EndToEnd, LocalTermination** Default: **EndToEnd**
Transparent Signaling TS	**1..24, None** Default: **24**
From Line to Link	Signaling bits. Signaling bits are editable only when Signaling Mode is **User Defined**. Each bit has three states: **Off** (unchecked), **On** (checked), and **Don't Care** (grey).
From Link to Line	Signaling bits. Signaling bits are editable only when Signaling Mode is **User Defined**. Each bit has three states: **Off** (unchecked), **On** (checked), and **Don't Care** (grey).

➤ **To display the time switching assignment information for an MVC-8/T1-DSU-FRAMER card external port:**

1. In the Edit **Configuration** mode, double-click an MVC-8/T1-DSU-FRAMER card.
2. In the Card View, click the external port and select **Configuration > TS Assignment…**

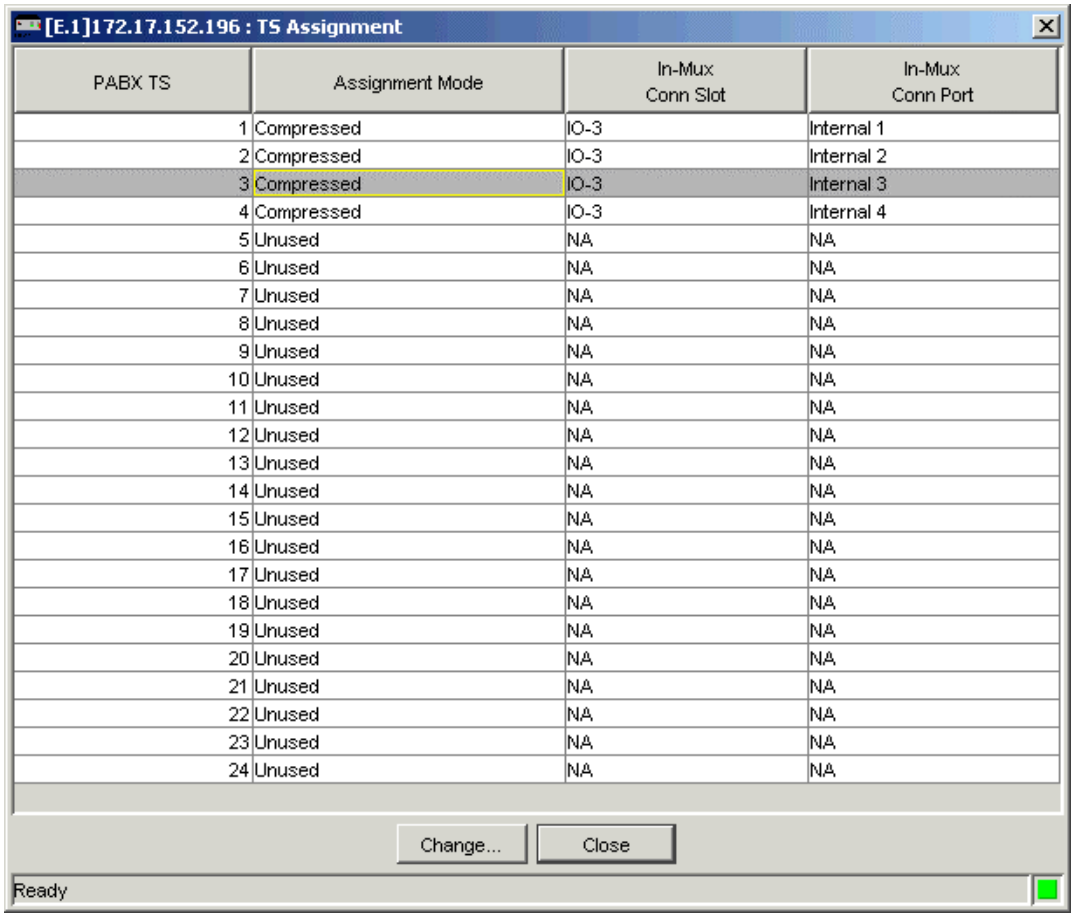


Figure 3-15. TS Assignment Dialog Box for the MVC-8/T1-DSU and the MVC-8/T1-DSU-FRAMER cards

Table 3-12. TS Table - MVC-8/T1-DSU-FRAMER - External Port

Parameter	Possible Values / Remarks
PABX TS	T1: **1..24** E1: **1..31**
Assignment Mode	**Unused, Compressed, Transparent**
In-Mux Conn Slot	**--, IO-1..IO-12**
In-Mux Conn Port	**--, Internal-1..Internal-4**
[Change…]	Edit the time slot information in the selected row

MVC-8/T1-DSU-FRAMER Configuration -Internal Port

➤ **To display software configuration of an MVC-8/T1-DSU-FRAMER card internal port:**

1. In the Edit **Configuration** mode, double-click an MVC-8/T1-DSU-FRAMER card.
2. In the Card Layout View, click an internal port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under three tabs: **SW Cfg1, SW Cfg2,** and **SW Cfg3**.

SW Cfg1 Tab

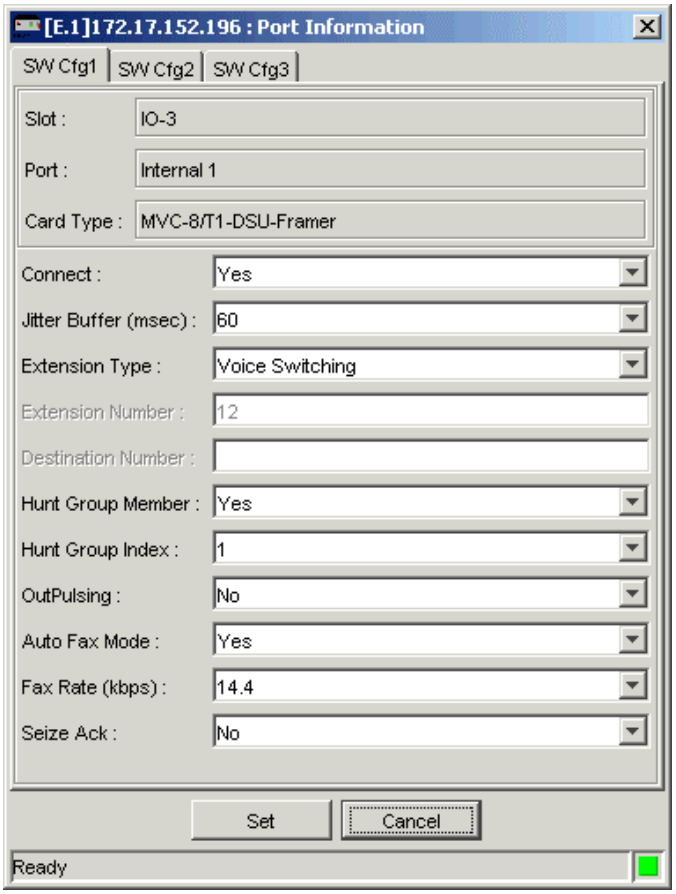


Figure 3-16. SW Cfg1 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-13. SW Cfg1 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes** Default: **No**
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270 and 300** Default: **60**
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Default: **Force Connect**
Extension Number	Only relevant when Extension Type is **Voice Switching** or **Auto Accept** **00 - 99** Default: **01-08** for ports 1-8.
Destination Number	Enable only when Extension=**Auto Dial** or **Permanent Dial** 1 to 22 digits
Hunt Group Member	Can only be **Yes** if Extension Type = **Voice Switching** **NA, No, Yes**
Hunt Group Index	Only enabled if Hunt Group Member = **Yes** **NA, 1..10**
OutPulsing	Only relevant if Extension Type = **Voice Switching** or **Auto Accept** **NA, No, Yes** Default: **NA**
Auto Fax Mode	**No, Yes** Default**: Yes**
Fax Rate (kbps)	If Auto Fax Mode = **No**: **Not Connected** If Auto Fax Mode = **Yes:** **2.4, 4.8, 9.6, 12, 14.4**
Seize Ack	**NA, No, Yes** Default: **No**

SW Cfg2 Tab

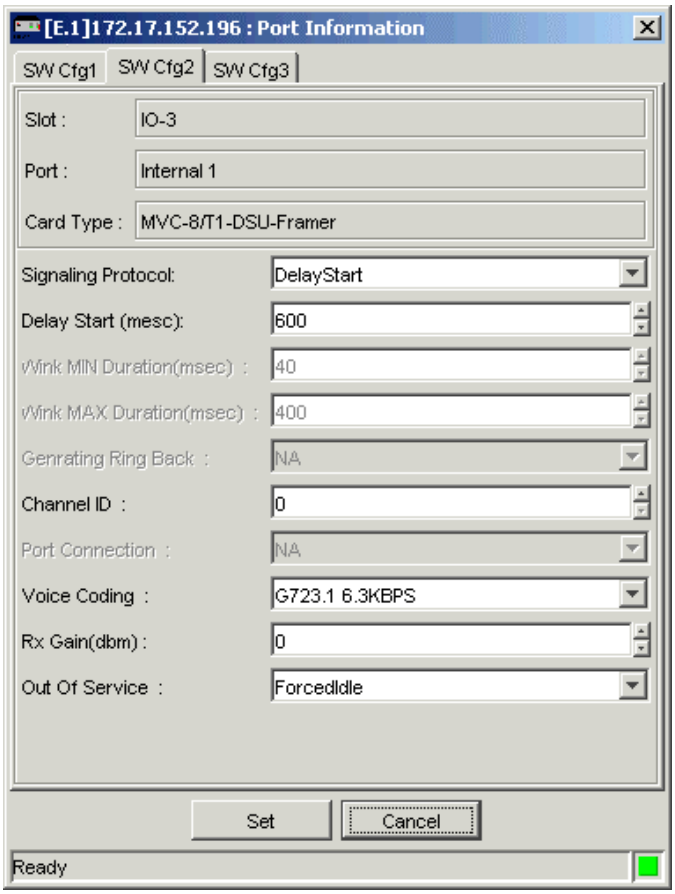


Figure 3-17. SW Cfg2 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-14. SW Cfg2 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100**..**5000** in intervals of 100 Default: **600**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Generating Ring Back	**Yes, No, NA** Default: **No**
Channel ID	**1..256** Default: **1**
Port Connection	**Line, Trunk** Default**: Line**
Voice Coding	Default: **G7231 6.3 KBPS**
Rx Gain (dBm)	**-31..0** Default: **0**
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state. Default: **Forced Idle**

SW Cfg3 Tab

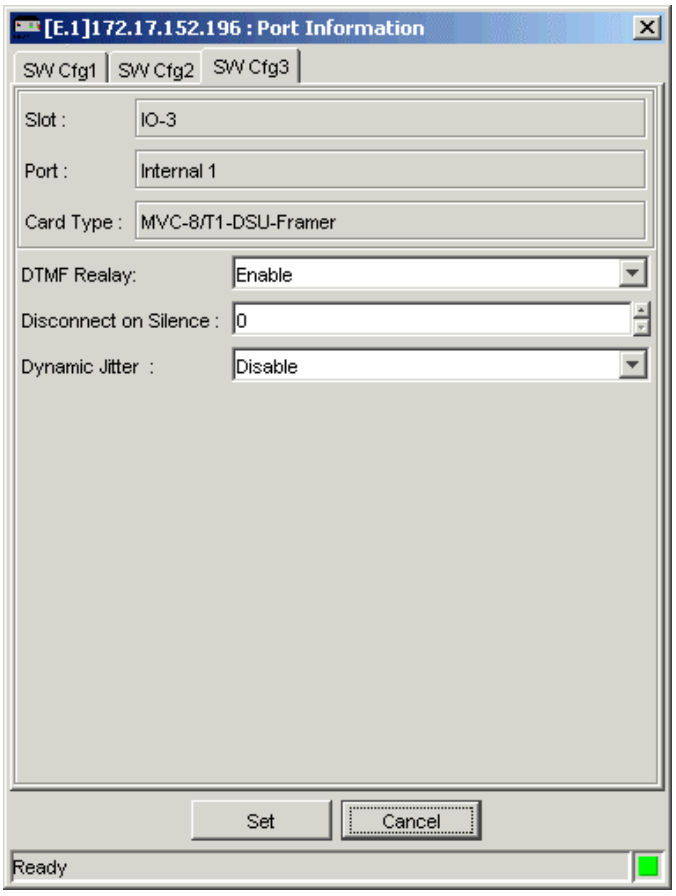


Figure 3-18. SW Cfg3 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-15. SW Cfg3 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
DTMF Relay	**Enable** (Checked), **Disable** Default: **Enable**
Disconnect on Silence	**0-Disable, 10..900** Default: **0-Disable**
Dynamic Jitter	**Enable** (Checked)**, Disable** (unchecked) Default: **Disable**

MVC-8N Configuration - External Port

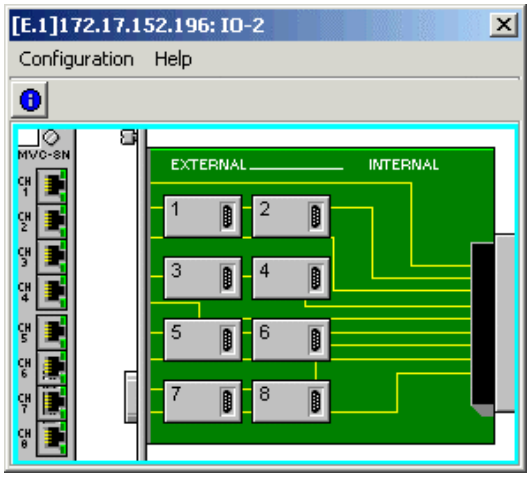


Figure 3-19. MVC-8N Card Layout View

➤ **To display software configuration of an MVC-8N card external port:**

1. In the Edit **Configuration** mode, double-click an MVC-8N card.
2. In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under four tabs: **SW Cfg1, SW Cfg2, SW Cfg3,** and **SW Cfg4**.

SW Cfg1 Tab

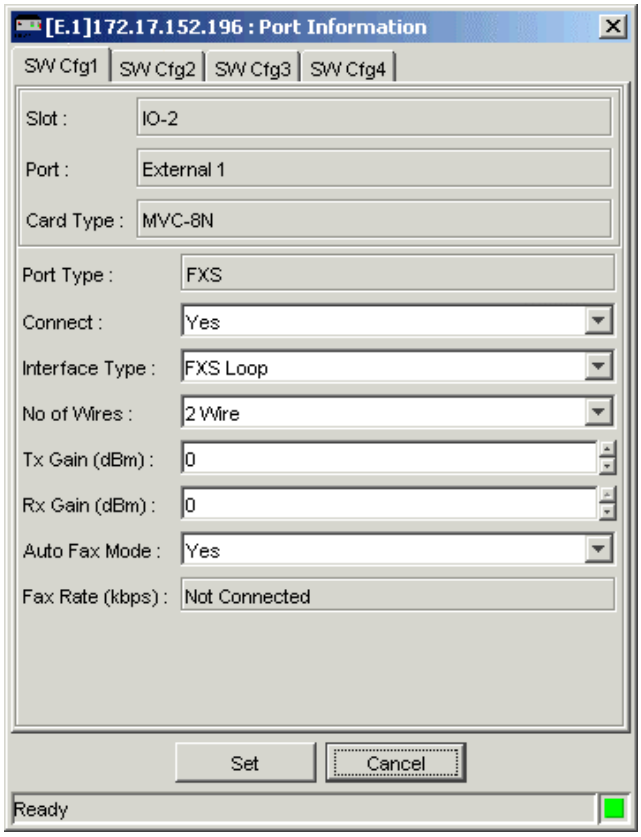


Figure 3-20. SW Cfg1 Tab Parameters - MVC-8N

Table 3-16. SW Cfg1 Tab - MVC-8N - External Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes** Default**: No**
Interface Type	For Port Type = **E&M: 2 Wires, 2/4 Wires** **Default: 2/4 Wires** For Port Type = **FXO: FXO Loop** For Port Type = **FXS: FXS Loop**
No of Wires	For Interface Type = 2 Wires: **2 Wire** For Interface Type = 2/4 Wires: **2 Wire, 4 Wire** Default: **4 Wire** For Interface Type = FXO Loop: **2 Wire** For Interface Type = FXS Loop: **2 Wire**
Tx Gain (dBm)	E&M Ports: **-10**..**7** Default: **0** FXO Ports: **-9**..**5** Default: **0** FXS Ports: **-10**..**8** Default: **0**

Table 3-17. SW Cfg1 Tab - MVC-8N - External Port

Parameter	Possible Values / Remarks
Rx Gain	E&M Ports: **-24**..**2** Default: 0 FXO Ports: **-25**..**1** Default: **-0** FXS Ports: **-17**..**2** Default: **0**
Auto Fax Mode	**No, Yes** Default: **Yes**
Fax Rate (Kbps)	Enabled only when Auto Fax Mode=Yes **2.4, 4.8,7.2, 9.6, 12, 14.4** Default: **9.6**

SW Cfg2 Tab

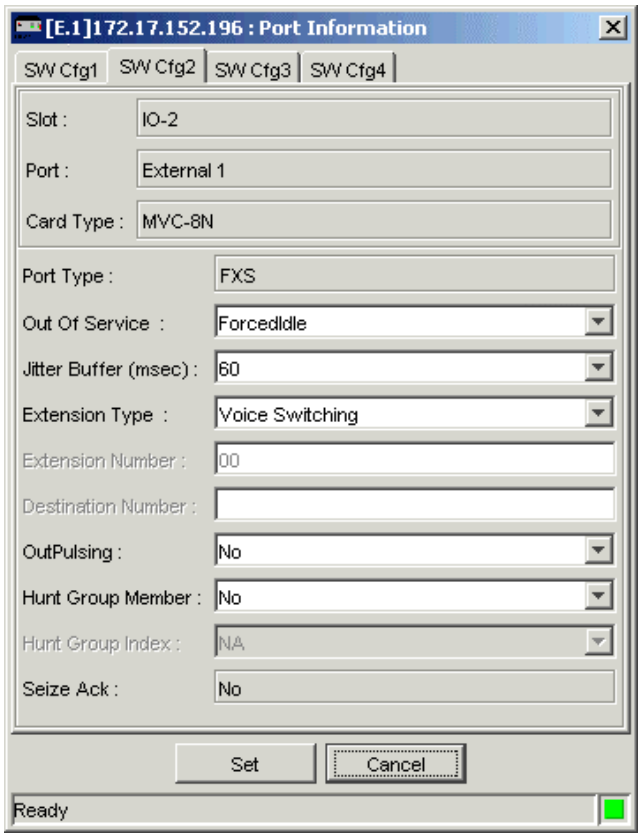


Figure 3-21. SW Cfg2 Tab Parameters - MVC-8N

Table 3-18. SW Cfg2 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state. Default: **Forced Idle**
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270** and **300** Default: **60**
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Default: **Force Connect**
Extension Number	2 characters Default: **01..04** for ports 1-4
Destination Number	Enabled only when Extension=Auto **1 to 22 digits**
OutPulsing	**NA, No, Yes**
Hunt Group Member	**NA, No, Yes**
Hunt Group Index	**NA, 1..10**
Seize Ack	**NA, Yes, No**

SW Cfg3 Tab

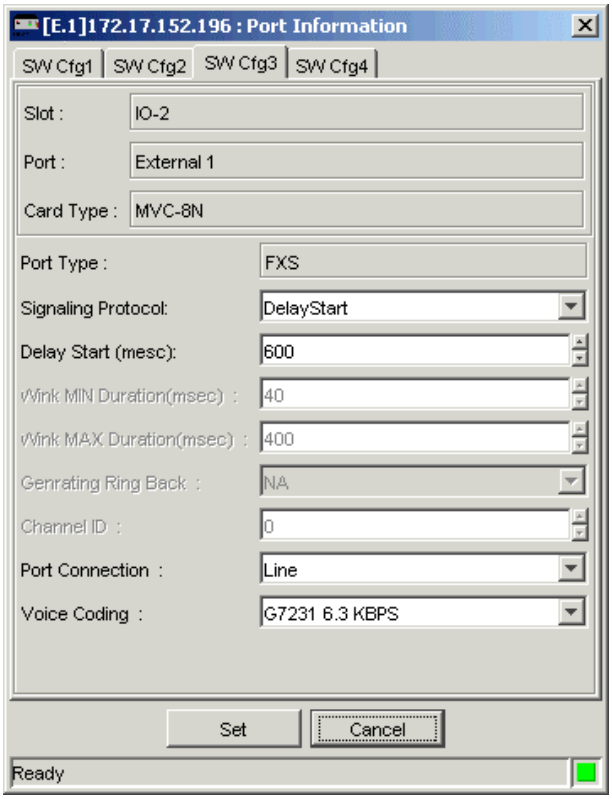


Figure 3-22. SW Cfg3 Tab Parameters - MVC-8N

Table 3-19. SW Cfg3 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100..5000** Default: **600**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10 Default: **40**
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10 Default: **40**
Generate Ring Back	**Yes, No, NA** Default: **No**
Channel ID	**1..256** Default: **1**
Port Connection	**Line, Trunk** Default: **Line**
Voice Coding	Default: **G7231 6.3 KBPS**

SW Cfg4 Tab

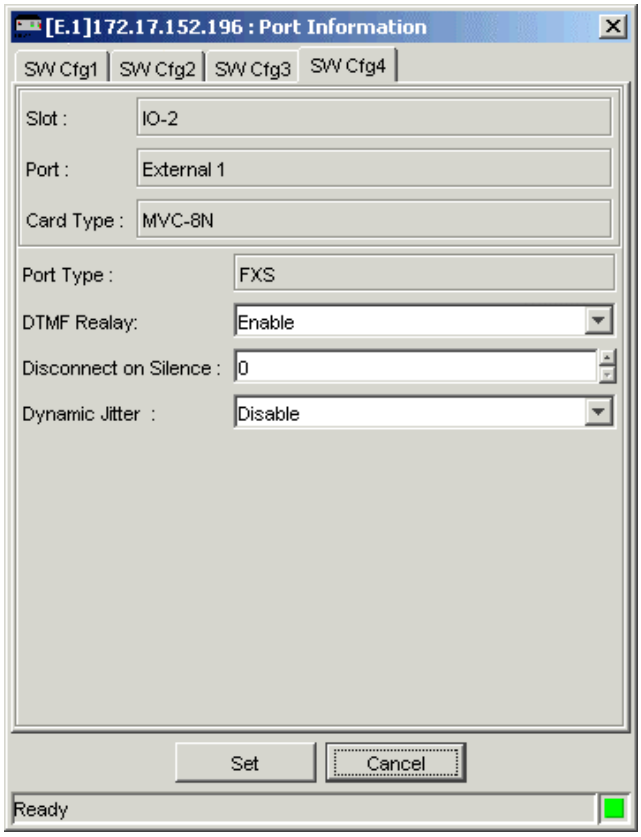


Figure 3-23. SW Cfg4 Tab Parameters - MVC-8N

Table 3-20. SW Cfg4 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
DTMF Relay	**Enable** (Checked), **Disable** Default: **Enable**
Disconnect on Silence	**0-Disable, 10..900** Default: **0-Disable**
Dynamic Jitter	**Enable** (Checked), **Disable** (unchecked) Default: **Disable**

MVC-8-SLAVE Configuration - Internal Port

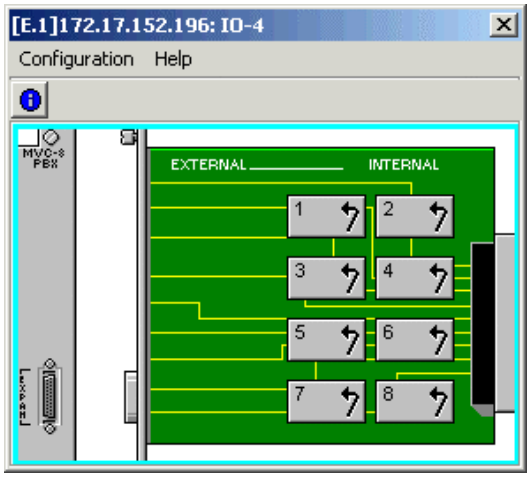


Figure 3-24. MVC-8-SLAVE Card Layout View

➤ **To display software configuration of an MVC-8-SLAVE card internal port:**

1. In the Edit **Configuration** mode, double-click an MVC-8-SLAVE card.
2. In the Card Layout View, click an internal port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under three tabs: **SW Cfg1, SW Cfg2,** and **SW Cfg3**.

SW Cfg1 Tab

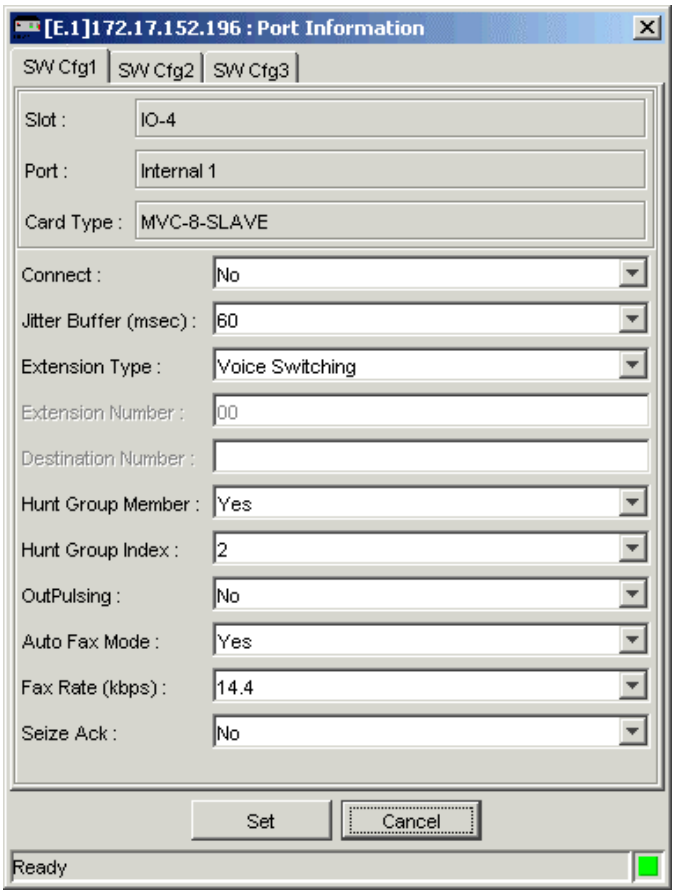


Figure 3-25. SW Cfg1 Tab Parameters - MVC-8-SLAVE

Table 3-21. SW Cfg1 Tab - MVC-8-SLAVE - Internal Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes** Default**: No**
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270** and **300** Default: **60**
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Default: **Force Connect**
Extension Number	Enabled only when Extension Type=Voice Switching or Auto Accept 2 characters **00..99** Default: **01..08** for ports 1-8
Destination Number	Enabled only when Extension Type=Auto Dial or Permanent Dial **1 to 22 digits**

Table 3-22. SW Cfg1 Tab - MVC-8-SLAVE - Internal Port (cont.)

Parameter	Possible Values / Remarks
Hunt Group Member	**NA, No, Yes** Default: **NA**
Hunt Group Index	**NA, 1..10** Default: **NA**
OutPulsing	**NA, No, Yes** Default: **NA**
Auto Fax Mode	**No, Yes** Default: **Yes**
Fax Rate (Kbps)	Enabled only when Auto Fax Mode=Yes **2.4, 4.8,7.2, 9.6, 12, 14.4** Default: **14.4**
Seize Ack	**NA, Yes, No**

SW Cfg2 Tab

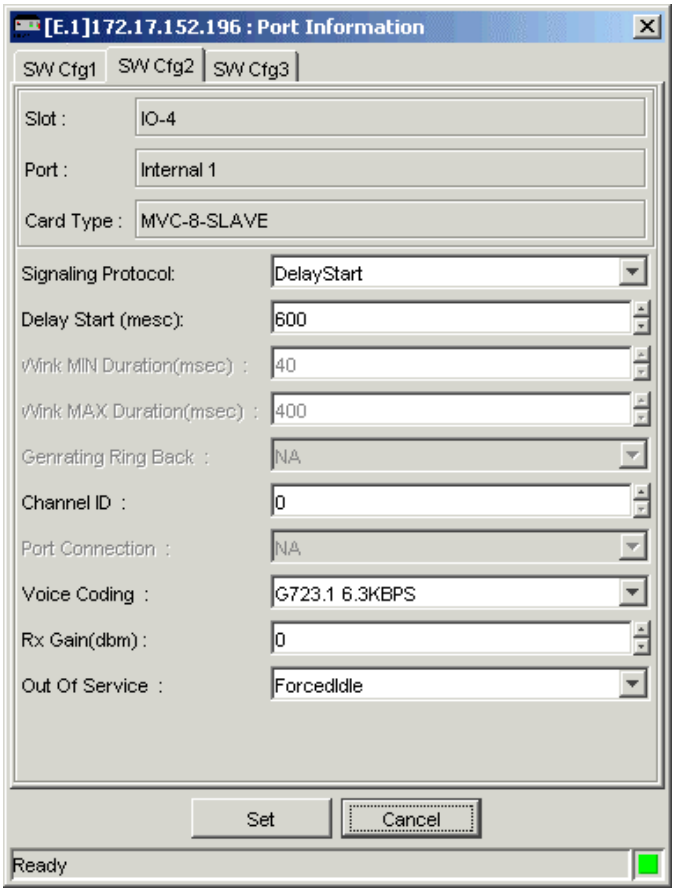


Figure 3-26. SW Cfg2 Tab Parameters - MVC-8-SLAVE

Table 3-23. SW Cfg2 Tab - MVC-8-SLAVE

Parameter	Possible Values / Remarks
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100**..**5000** Default: **600**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Generating Ring Back	**Yes, No, NA** Default: **No**
Channel ID	**1**..**256** Default: **1**
Port Connection	**Line, Trunk** Default: **Line**
Voice Coding	Default: **G7231 6.3 KBPS**
Rx Gain (dbm)	**-31..5** Default: **0**
Out Of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state. Default: **Forced Idle**

SW Cfg3 Tab

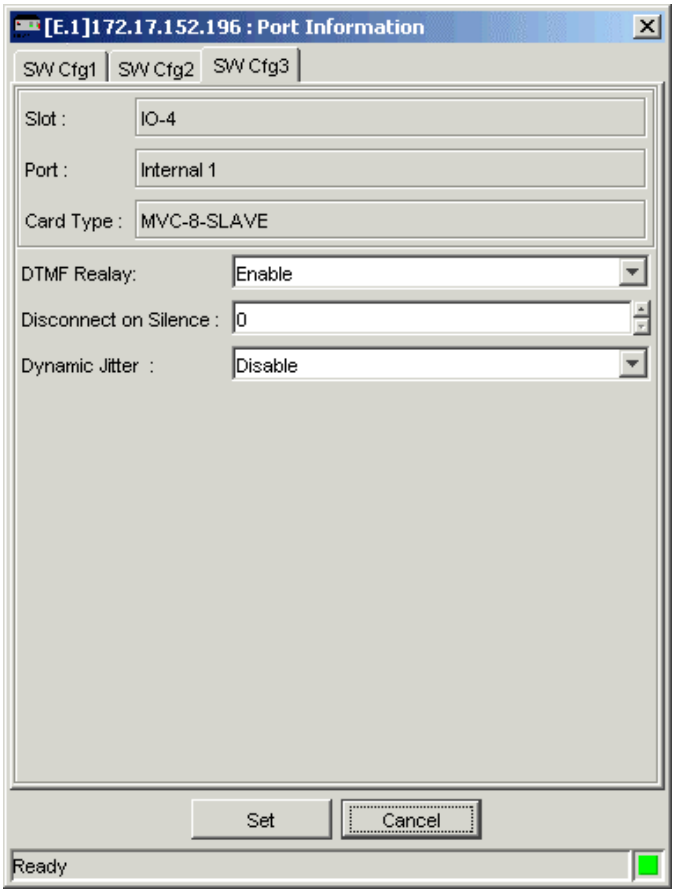


Figure 3-27. SW Cfg3 Tab Parameters - MVC-8-SLAVE

Table 3-24. SW Cfg3 Tab - MVC-8-SLAVE

Parameter	Possible Values / Remarks
DTMF Relay	**Enable, Disable** Default: **Enable**
Disconnect on Silence	**0,10..900** Default: **0**
Dynamic Jitter	**Enable, Disable** Default: **Disable**

VC-6 (FXS) Configuration - External Port

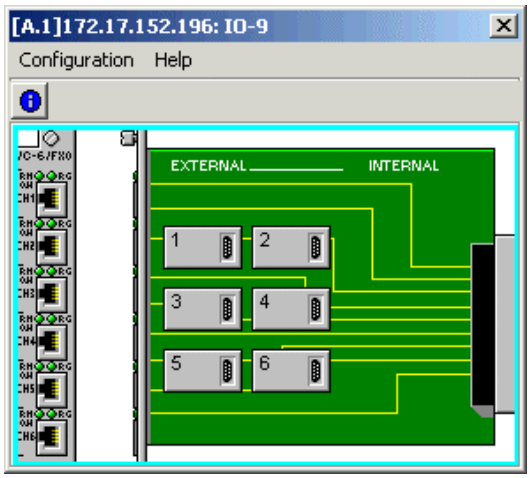


Figure 3-28. VC-6 Card Layout View

➤ **To display software configuration of a VC-6 card external port:**

1. In the Edit Configuration mode, double-click a VC-6 card.
2. In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under one tab: **SW Cfg**.

SW Cfg Tab

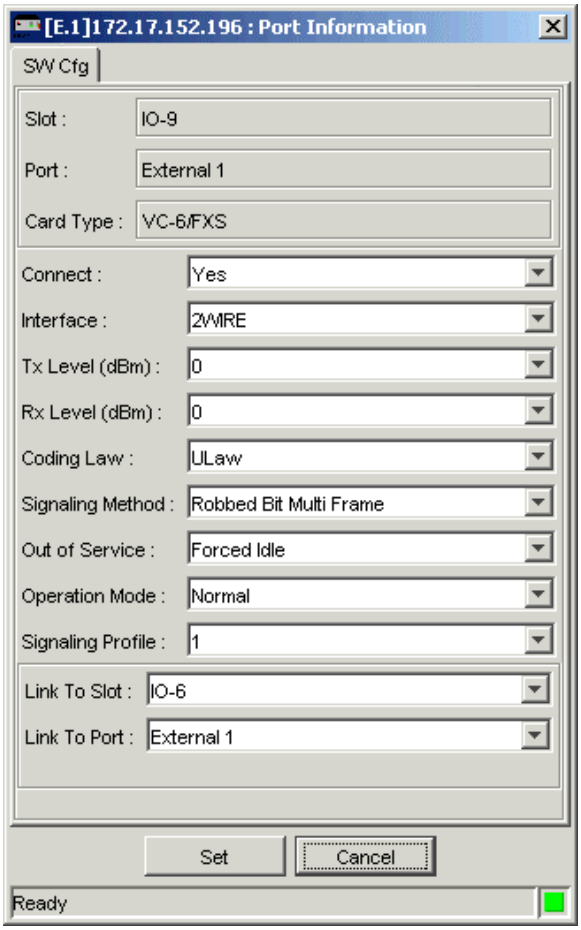


Figure 3-29. SW Cfg Tab Parameters - VC6 (FXS)

Table 3-25. SW Cfg Tab - VC-6 - External Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes**
Interface	**2WIRE, 4WIRE**
Tx Level (dBm)	Transmit level
Rx Level (dBm)	Receive level
Coding Law	**ALaw, ULaw**
Signaling Method	**No-signaling, RobbedBitMultiFrame, RobbedBitFrame, Ch Associated E1**

Table 3-26. SW Cfg Tab - VC-6 - External Port (cont.)

Parameter	Possible Values / Remarks
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state.
Operation Mode	**Normal, Unidirectional Rx, Broadcast**
Signaling Profile	Values will vary based on type of VC-6 card **1, 2, 3, 4**
Link to Slot	**IO-1..IO-12**
Link to Port	**External 1, External 2, Internal 1**

Configuring the MVG-1-LAN Card

➤ **To display software configuration of the MVG-1-LAN card:**

1. In the Edit **Configuration** mode, double-click the MVG card.

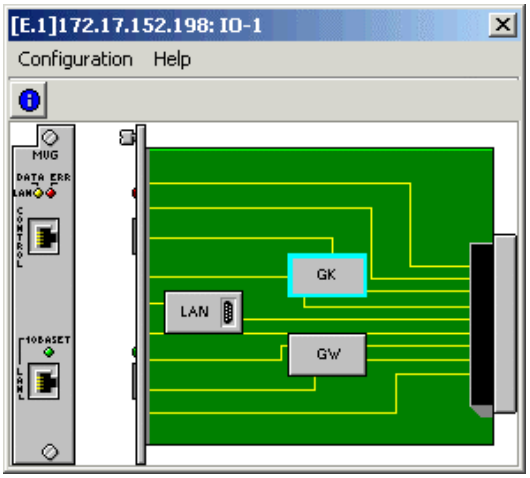


Figure 3-30. MVG Card Layout View

LAN Port

➤ **To display LAN information:**

- Double click the LAN port

Or

- Select the LAN port and select **Configuration > LAN Info…**

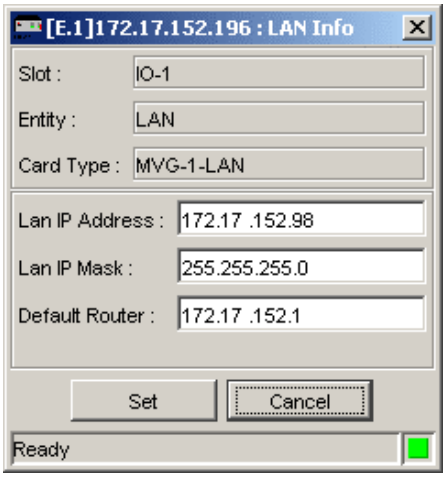


Figure 3-31. LAN Port Info Dialog

Table 3-27. LAN Info Parameters - MVG Card

Parameter	Possible Values / Remarks
Lan IP Address	**0.0.0.0. - 255.255.255.255** Default: **0.0.0.0**
Lan IP Mask	**0.0.0.0. - 255.255.255.0** Default: **255.255.255.0**
Default Router	**0.0.0.0. - 255.255.255.255** Default: **0.0.0.0**

Gatekeeper Port

➤ **To configure Gatekeeper information:**

- Double click the GK port

Or

- Select the GK port and select **Configuration > Gatekeeper Info…**

The information appears under four tabs: **System, Zone, RAS, and Q.931**.

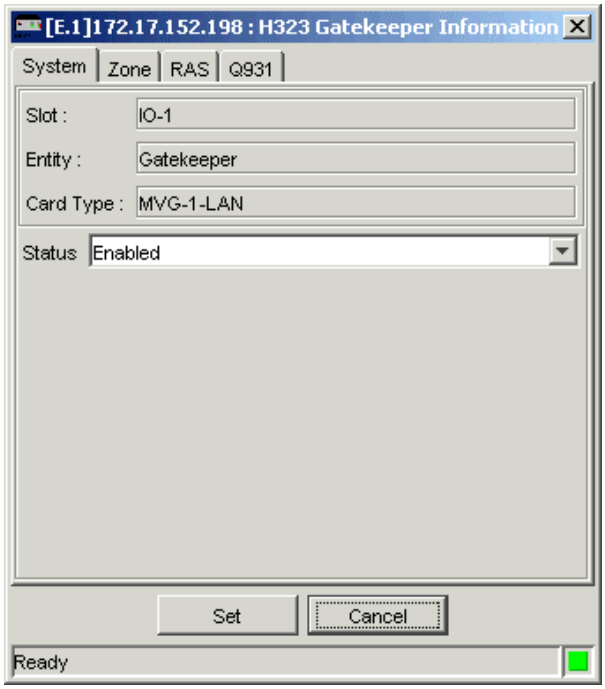


Figure 3-32. Gatekeeper Info - MVG Card

System Tab System

Table 3-28. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values / Remarks
Status	**Enabled, Disabled** Default: **Disabled**

Zone Tab Zone

Table 3-29. Gatekeeper Info Zone Parameters - MVG Card

Parameter	Possible Values / Remarks
Zone Name	**20 characters (maximum) ASCII string**
IRQ Interval (sec)	**0..600** Default: **60**
Max Total B/W (Kbps)	Default: **1024**
Call Accept Policy	**Accept All, Registered Only, Predefined Only** Default: **Accept All**
Call Mode	**Direct, Routed** Default: **Direct**
Default Distance	**0..99** Default: **1**
Out of Zone Distance	**0..99** Default: **0**

RAS Tab RAS

Table 3-30. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values / Remarks
RAS Port no.	Default: **1719**
Registration Policy	**Accept All, Predefined Only** Default: **Accept All**
Call Accept	**Accept All, Registered Only, Predefined Only** Default: **Accept All**
Response Time Out (sec)	**5..30** Default: **20**
MAX No. of Retries	**1**..**200** Default: **3**

Q931 Tab Q931

Table 3-31. Gatekeeper Info Q931 Parameters - MVG Card

Parameter	Possible Values / Remarks
Q.931 Port no.	Default: **1722**
Connection Time Out T303 (sec)	**30**..**180** Default: **180**
Response Time Out T303 (sec)	**5..30** Default: **20**
MAX No. of Connections	**1..60** Default: **60**

➤ **To configure Endpoint information:**

- Select the GK port and select **Configuration > Endpoints Table…**

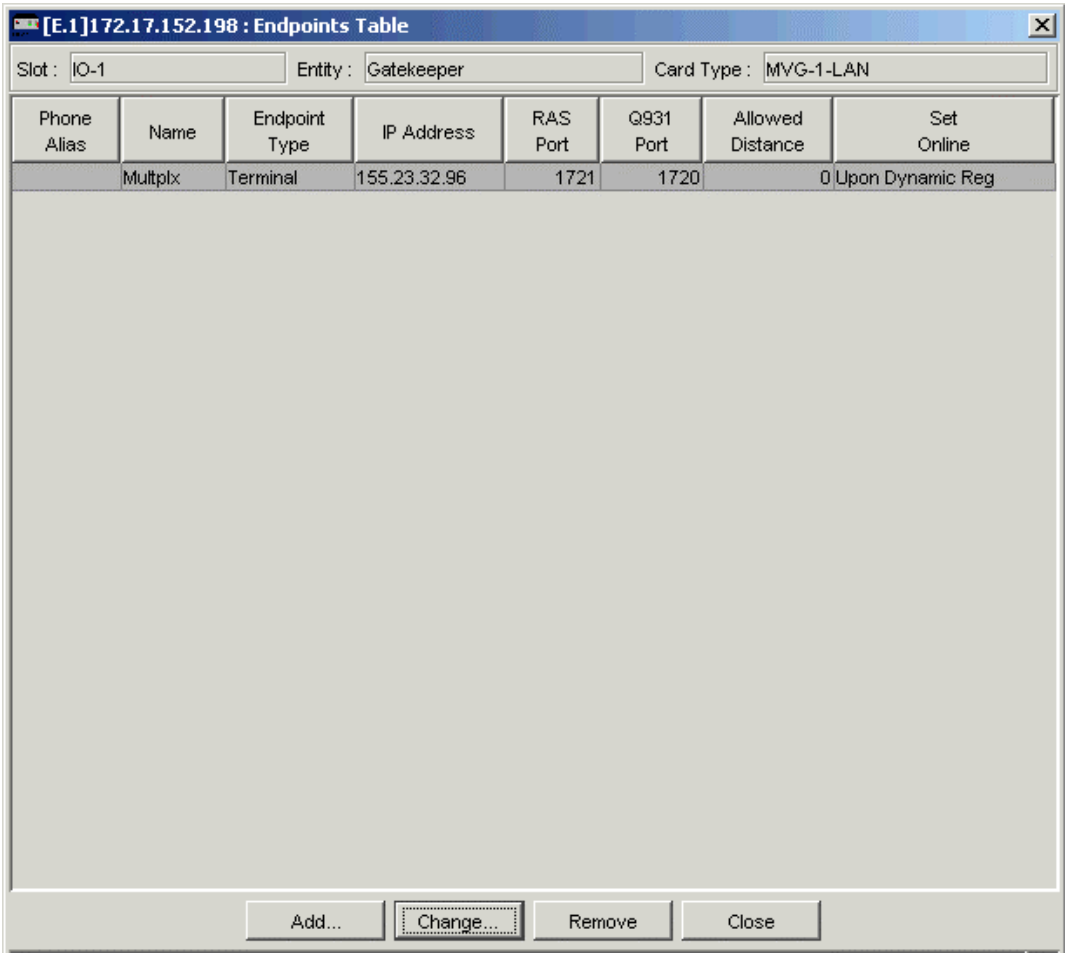


Figure 3-33. Endpoints Table- MVG Card

➤ **To add new Endpoint information:**

- Click **<Add…>**

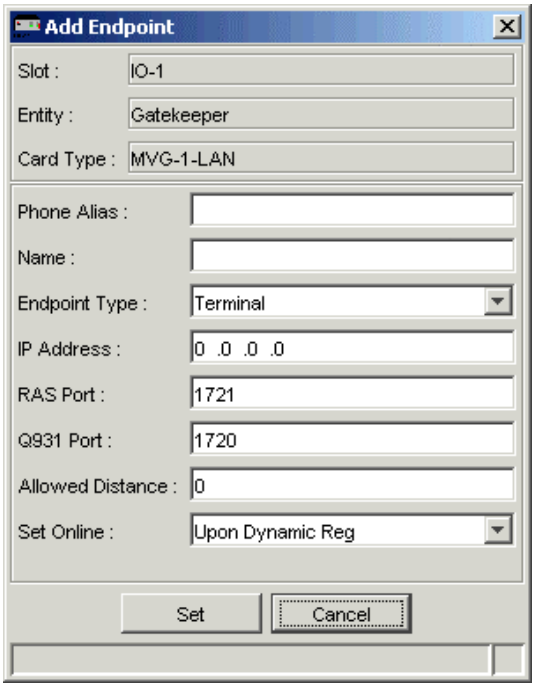


Figure 3-34. Add Endpoint Dialog – MVG Card

➤ **To modify existing Endpoint information:**

- Select the desired row and click **<Change…>**

➤ **To delete Endpoint information:**

- Select the desired row and click **<Remove>**

Table 3-32. Endpoints Table Parameters - MVG Card

Parameter	Possible Values / Remarks
Phone Alias	**7** character (max) alphanumeric string (0..9,*,# only)
Name	**7** character (max) ASCII string
Endpoint Type	**Terminal (50), Gateway (80)** Default: **Terminal**
IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
RAS Port	Default: **1721**
Q.931 Port	Default: **1720**
Allowed Distance	**0..99** Default**: 0**
Set Online	**Upon Dynamic Registration, Always** Default: **Upon Dynamic Registration**

➤ **To configure Neighbors information:**

- Select the GK port and select **Configuration > Neighbor Table…**

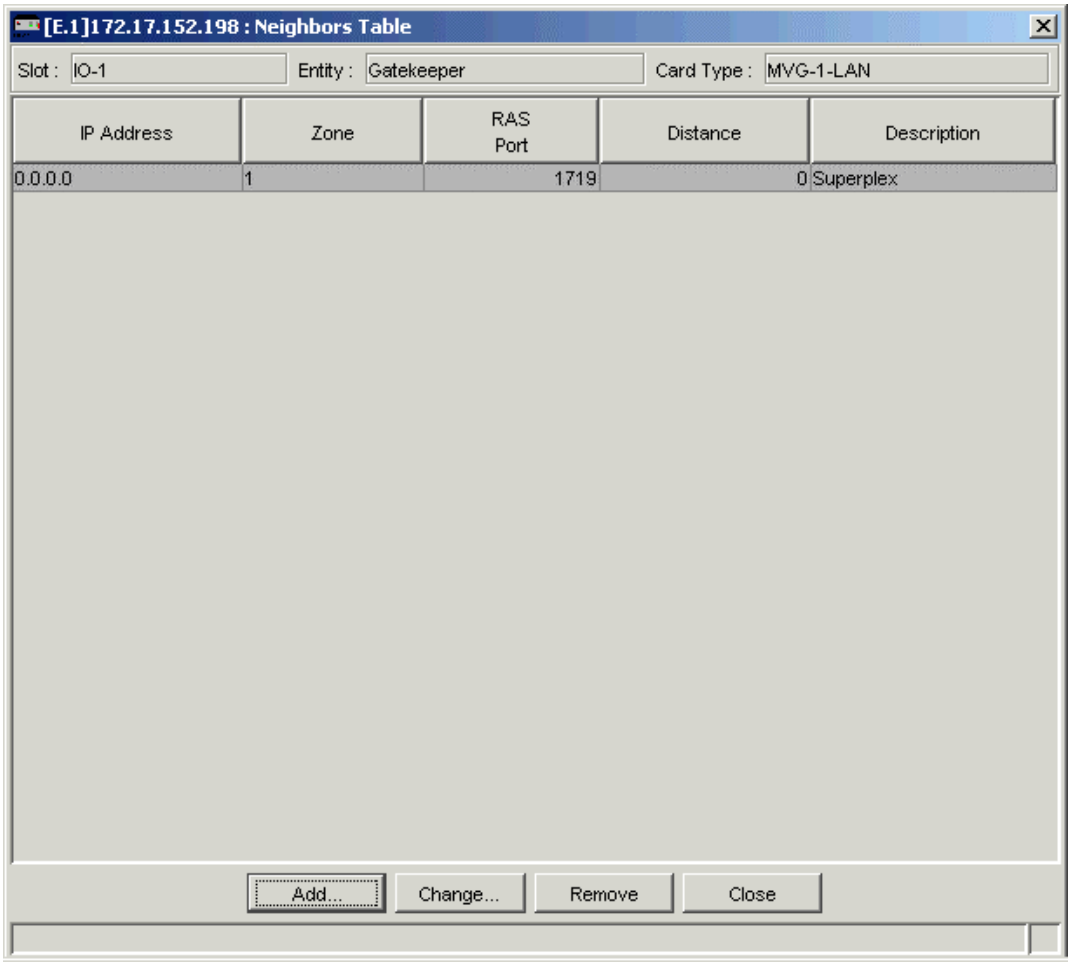


Figure 3-35. Neighbors Table - MVG Card

➤ **To add new Neighbor information:**

- Click **<Add…>**

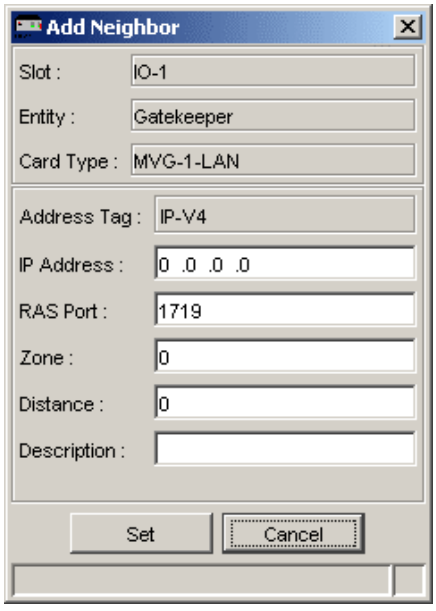


Figure 3-36. Add Neighbor Dialog – MVG Card

➤ **To modify existing Neighbor information:**

- Select the desired row and click **<Change…>**

➤ **To delete Neighbor information:**

- Select the desired row and click **<Remove>**

Table 3-33. Neighbors Table Parameters - MVG Card

Parameter	Possible Values / Remarks
IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
RAS Port	Default: **1719**
Zone	2-digit ASCII string
Address Tag	
Distance	**0..99** Default: **0**
Description	20 character (max) ASCII string

H.323 Gateway Port

➤ **To configure H.323 Gateway information:**

- Double click the GW port

Or

- Select the GW port and select **Configuration > Gateway Info…**

  The information appears under six tabs: **System, General, RAS, Q.931, H.245,** and **RTP**.

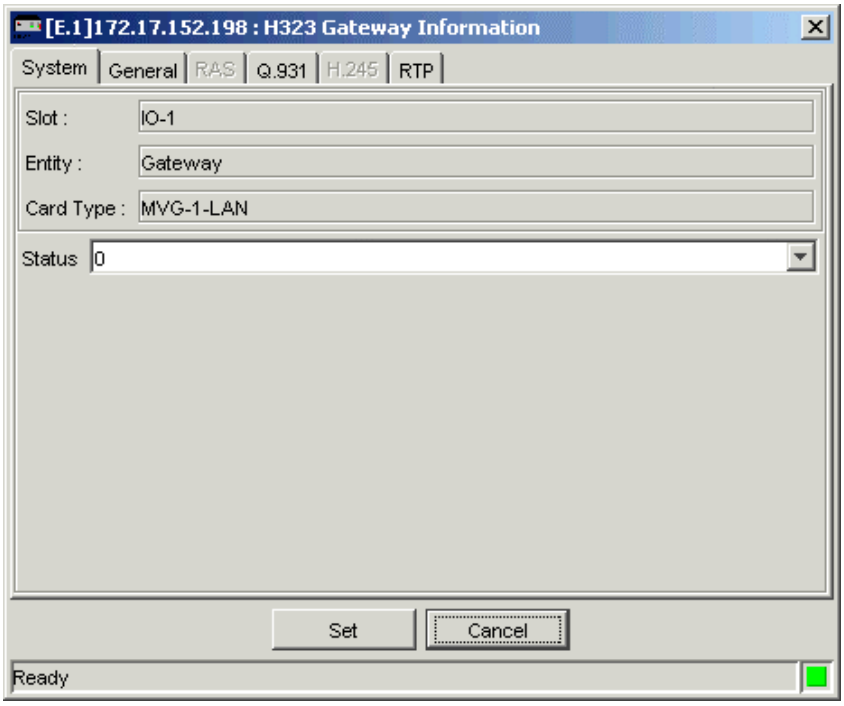


Figure 3-37. Gateway Info - MVG Card

System Tab

Table 3-34. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values / Remarks
Status	**Disable, CVS IP, Standard** Default: **Disable**

General Tab

Table 3-35. Gatekeeper Info General Parameters - MVG Card

Parameter	Possible Values / Remarks
Gateway ID	ASCII String (maximum of 19 characters)
VOIP Extension No.	**00**..**99** Default: **99**
Remote GW IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
Remote GW IP Port	Default: **1720**

RAS Tab

Table 3-36. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values / Remarks
RAS Port no.	Default: **1721**
Gatekeeper IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
Backup Gatekeeper IP Address	**0.0.0.0.-255.255.255.255** Default**: 0.0.0.0**
Gatekeeper Port	Default: **1719**
Response Time Out (sec)	**5**..**30** Default: **20**
MAX No. of Retries	**1**..**200** Default: **3**
Time to Register	**0-Never, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720, 780, 840, 900** Default: **300**

Q.931 Tab

Table 3-37. Gatekeeper Info Q.931 Parameters - MVG Card

Parameter	Possible Values / Remarks
Q.931 Port no.	Default: **1720**
Connection Time Out T303 (sec)	**30**..**180** Default: **180**
Response Time Out T303 (sec)	**5..30** Default: **20**
MAX No. of Connections	**1..60** Default: **60**
H.245 Tunneling	**Enable, Disable** Default: **Disable**

H.245 Tab

Table 3-38. Gatekeeper Info H.245 Parameters - MVG Card

Parameter	Possible Values / Remarks
Master/SlaveTime Out (sec)	**1**..**20** Default: **20**
Capabilities Time Out (sec	**1**..**180** Default: **20**
Max. Jitter (milli sec)	**1**..**300** Default: **300**

RTP Tab

Table 3-39. Gatekeeper Info RTP Parameters - MVG Card

Parameter	Possible Values / Remarks
RTP Multiplexing	**Disable, Type 1, Type 2** Default: **Disable**
Frame Size	**100**..**1472** Default: **500**
Interval (msec)	**10**..**90** Default: **30**
Type of Service (TOS)	
Precedence	**Routine, Priority, Immediate, Flash, Flash Override, CRITIC/ECP, Inter Network CTRL, Network CTRL** Default: **Routine**
Type of Service	**Normal, High Reliability, High Throughput, High Throughput & High Reliability, Low Delay, Low Delay & High Reliability, Low Delay & High Throughput, Low Delay & High Throughput & High Reliability** Default: **Normal**

Copying a Port's Configuration

Use the **Copy** command to copy the selected port's configuration to a destination port within the current MP-2100H/Maxcess or another MP-2100H/Maxcess.

Note

Timeslot assignments and/or the DLCI table of a port cannot be copied using this command.

➤ **To copy a port configuration to another port:**

1. In the Edit Configuration Card Layout View, click the port whose configuration you want to copy.
2. Select **Configuration > Copy**.
3. Select the required copy parameters and click <**Set**>.

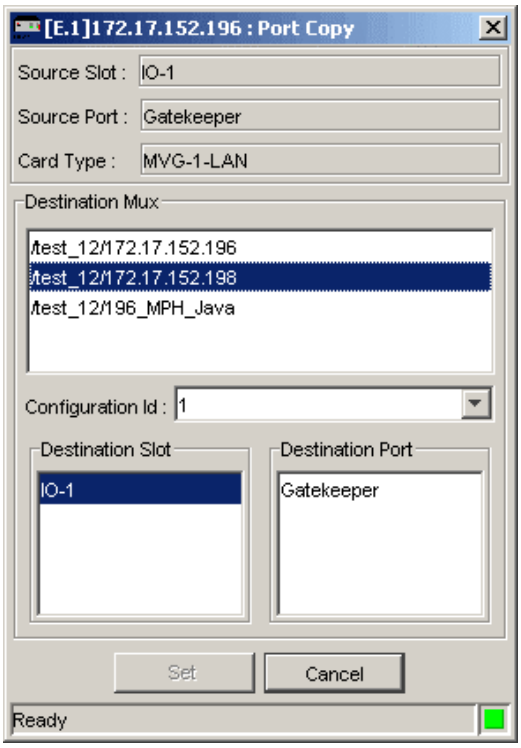


Figure 3-38. Port Copy Dialog Box

Table 3-40. Port Copy Parameters

Parameter	Possible Values
Source Slot	Slot in which the selected card is inserted
Source Port	Number of the selected port
Card Type	Type of the selected card
Destination Mux	List of Megaplex Hybrids in the current net. You can select any type of Megaplex Hybrid as a destination.
Configuration Id	ID number of an existing Edit Configuration in the destination Megaplex Hybrid

Table 3-41. Port Copy Parameters (cont.)

Parameter	Possible Values
Destination Slot	Destination slot in the destination Megaplex Hybrid. Only slots containing the same card type as the source card are available. ***Note:*** *You can select more than one destination slot. Each destination slot will receive the same configuration.*
Destination Port	Destination port in the destination slot ***Note:*** *A destination port may contain data that affects or depends on data of other ports (for example, redundant MTML cards, LS-6 tandem cards, and so on). These conditions are not by checked or processed further by RADview. The user is responsible for checking and correcting such situations.*

Setting User Info

The **User Info** command enables to assign a user name and information for a port.

➤ **To change port information parameters:**

- In the Card Layout View, select a port and select **Configuration > User Info…**

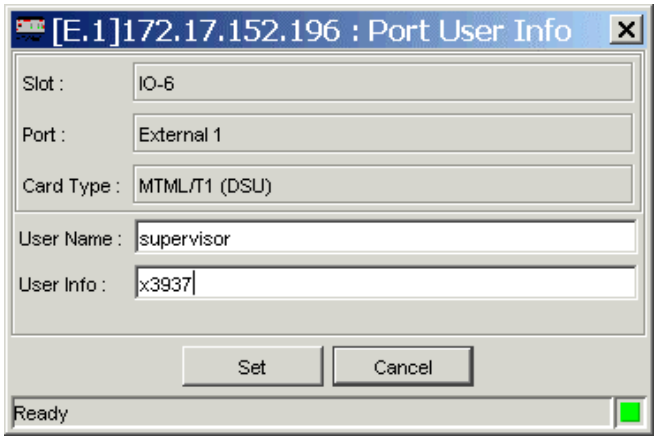


Figure 3-39. Port User Info Dialog Box

Table 3-42. Port User Info Parameters

Parameter	Possible Values
Slot	Slot in which the card is located
Port	Selected port
Card Type	Card type
User Name	User supplied name whose maximum length is 15 characters
User Info	User supplied information whose maximum length is 15 characters

Setting Timeslot Assignments

Note *If you have configured Timeslot Assignments between two MTML cards with **Direction = Both**, and later you want to remove/change the Timeslot Assignment, then you must remove/change the Timeslot Assignment on both MTML cards.*

Use the **TS Assignment** command to display and set timeslot assignments for a specific port. TS Assignment is only available for external-1 ports of MTML cards.

➤ **To set Timeslot assignments**

1. In the Edit **Configuration** Card Layout View, click the required external-1 port.
2. Select **Configuration > TS Assignment**

   Or

   Click the **TS Assignment** button  .

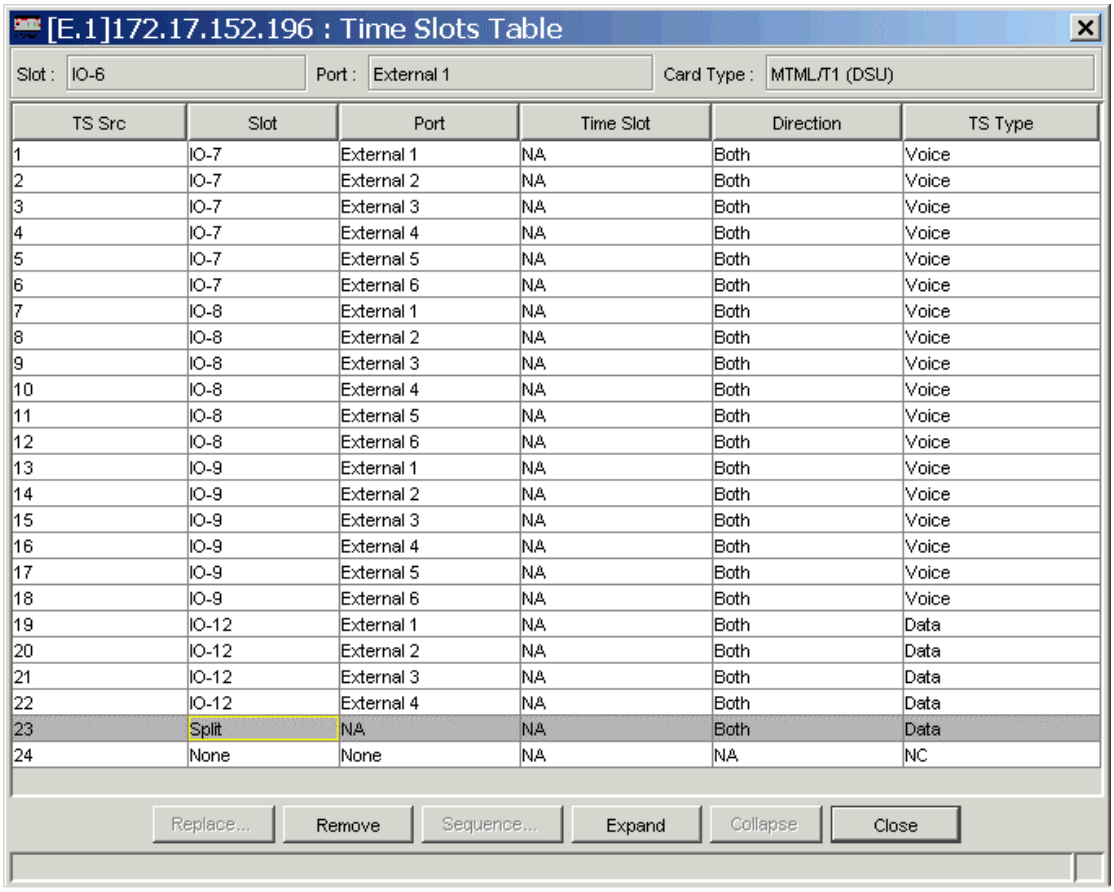


Figure 3-40. Timeslots Table

Note *All parameters in the Timeslots Table are read-only.*

Table 3-43. Timeslots Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is inserted **IO-1**..**IO-12**
Port	Number of selected port **External 1**
Card Type	Type of selected card All **MTML** cards
TS Src	Index number of selected timeslot T1: **1**..**24** E1: **1**..**31**
Slot	Destination card slot in the current MP-2100H **None, IO-1**..**IO-12, Split**
Port	Destination port in the destination slot. Options depend on the available ports on the installed IO card. **None, NA, External 1**..**External 12, Internal - 1**..**Internal - 13**
Timeslot	Destination timeslot for the selected timeslot in the current Megaplex Hybrid. This parameter is relevant if the destination slot contains an MTML card. Assigned timeslots are checked during sanity checks. T1: **None**, **1**..**24** E1: **None**, **1**..**31**
Direction	**NA, Tx, Rx, Both, BcastSrc, BcastDst**
TS Type	**NC, Data, Voice, Mng**

➤ **To change the default entry of the Source TS or Bit (not connected):**

- In the **Timeslots Table**, select an entry in the table and click <**Replace**...>.

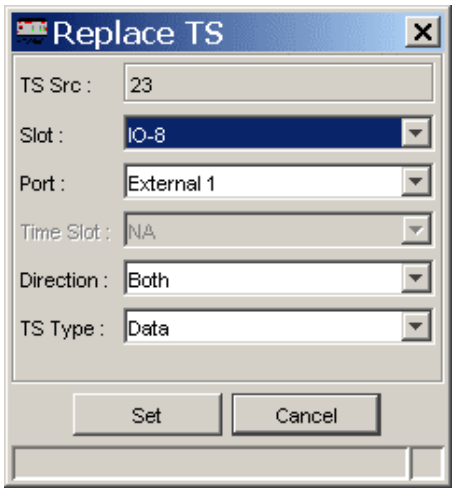


Figure 3-41. Replace TS Dialog Box

Table 3-44. Replace TS Parameters

Parameter	Possible Values / Remarks
TS Src	Index number of the selected timeslot. This parameter is read-only. T1: **1**..**24** E1: **1**..**31**
Slot	Destination card slot in the current MP-2100H. Options depend on the type of the selected port. **None, IO-1**..**IO-12, Split**.
Port	Destination port in the destination slot. Options depend on the available ports on the installed IO card. **None, NA, external-1**..**external-12, Internal-1**..**Internal-13**
Timeslot	Destination timeslot for the selected timeslot in the current Megaplex Hybrid. This parameter is relevant if the destination slot contains an MTML card. Assigned timeslots are checked during sanity checks. T1: **None**, **1**..**24** E1: **None**, **1**..**31**
Direction	**NA, Tx, Rx, Both, BcastSrc or BcastDst**
TS Type	**NC, Data, Voice, or Mng**

➤ **To Remove a TS**

- In the **Timeslots Table**, select an existing TS assignment and click <**Remove**>.

Connecting a Sequence of Timeslots

You can assign a sequence of consecutive timeslots from the selected card to a port on another MTML card of the same type (T1/E1). This enables you to save the time otherwise required to assign each timeslot separately.

➤ **To assign a sequence of timeslots**

- In the **Timeslots Table**, click <**Sequence…**>.

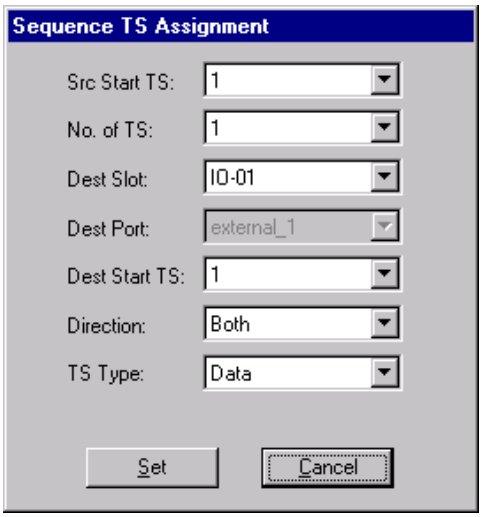


Figure 3-42. Sequence Timeslot Assignment Dialog Box

Table 3-45. Sequence TS Parameters

Parameter	Possible Values / Remarks
Src Start TS	First timeslot of the sequence T1: **1**..**24** E1: **1**..**31**
No. of TS	Number of timeslots in the sequence T1 ports: **1..(*25 -Src Start TS*)** E1 ports: For Line Types E1 (G.732N) and E1 - CRC (G.732NCRC) **1..(*32 - Src Start TS*)** For Line Types E1 - MF (G.732S) and E1 - CRC-MF (G.732SCRC) If Src Start ≤ 15 : **1..(*16 - Src Start TS*)** If Src Start ≥ 17 : **1..(*32 - Src Start TS*)**
Dest Slot	Destination card slot in the current MP-2100H for these timeslots **IO-1**..**IO-12**
Dest Port	Destination port in the destination card slot for these timeslots **external-1, external-2 and internal-1**
Dest Start TS	First timeslot in the destination port T1 ports: **1..(*25 - No. of TS*)** E1 ports: For Line Types E1 (G.732N) and E1 - CRC (G.732NCRC) **1..(*32 - No. of TS*)** For Line Types E1 - MF (G.732S) and E1 - CRC-MF (G.732SCRC) If Src Start ≤ 15 : **1..(*16 - Src Start TS*)** If Src Start ≥ 17 : **1..(*32 - Src Start TS*)**
Direction	**Tx, Rx, Both, BcastSrc, BcastDst**
TS Type	**NC, Data, Voice, Mng, Spare**

Split Timeslot

In MTML card external ports, the timeslots may be split into smaller parts so that different bits are connected to different slots and/or ports. If a timeslot is Split, you can expand the table to view the connections of that timeslot's bits.

➤ **To view the connections of a split timeslot's bits:**

- Click an entry whose slot is Split and click <**Expand**>

  Or

  Double click the TS Src or Slot of an entry whose slot is Split.

  The Timeslots Table displays eight additional rows (one for each bit) directly under the selected timeslot.

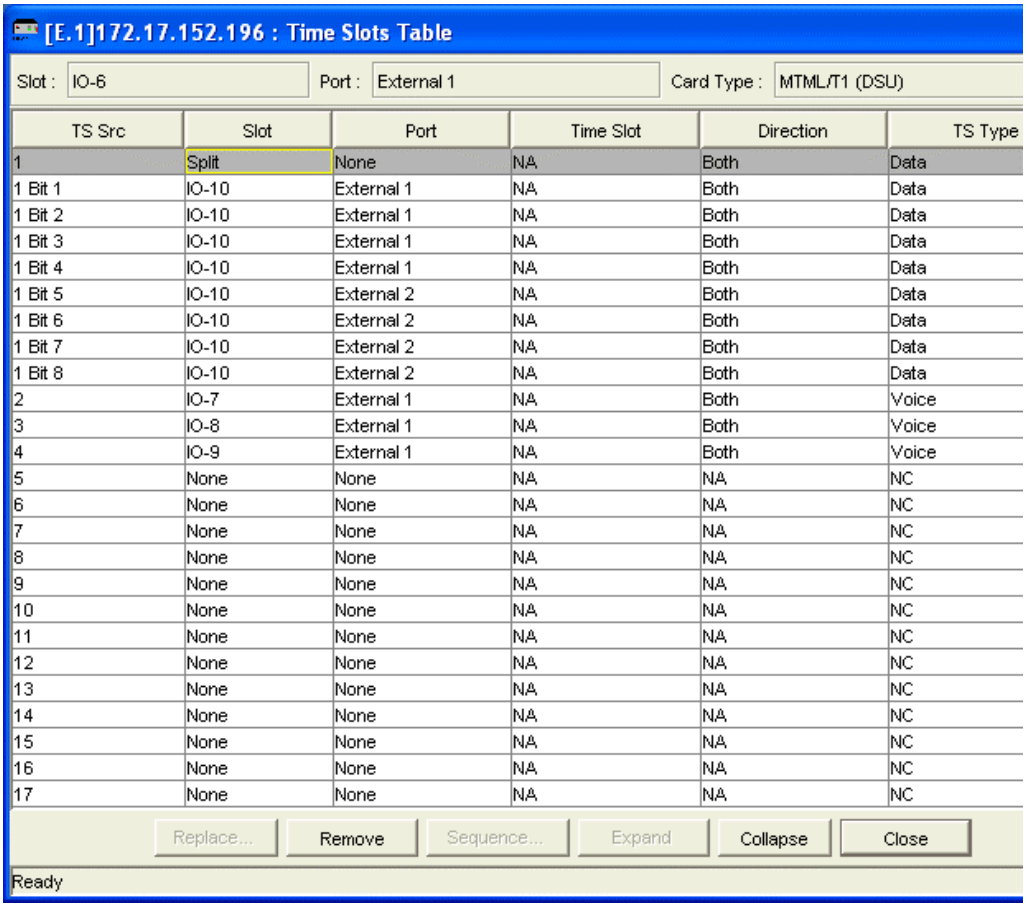


Figure 3-43. Expanded Timeslots Table

➤ **To replace a TS at bit level:**

1. In the Expanded Timeslots Table, select a bit entry and click <**Replace**...>.

   The Replace Bit dialog box appears. This box is similar to the Replace TS dialog box.
2. Set parameters for the **Slot** and **Port**.
3. Click <**Set**> to implement changes to the Edit Configuration.

➤ **To add a TS at bit level**

1. In the Expanded Timeslots Table, select a bit entry and click <**Add**...>.

   The Add Bit dialog box appears. This box is similar to the Add TS dialog box.
2. Set parameters for the **Slot** and **Port**.
3. Click <**Set**> to implement changes to the Edit Configuration.

➤ **To Remove a TS at bit level**

- In the Expanded Timeslots Table, select a bit entry and click <**Remove**>.

  The TS is removed from the list.

➤ **To return to the Timeslot Table's normal view:**

- Click a *Bit* entry and click <**Collapse**> to return to the Timeslot Table's normal view

  Or

  Double-click any *Bit* entry.

3.4 Agent Card Level Configuration Operations

RADview also provides management and monitoring functions at the Card Level in Agent Mode. In the Megaplex Hybrid (system) Level, you select a card by clicking or double-clicking it. A blue border outlines a selected card. Double-clicking a card opens the Card Layout View of the selected card.

Table 3-46 lists the different management options for the card level.

Note *Card Level Configuration menu options are dependent upon the selected card. You cannot copy or zoom in on PS cards, empty slots, unknown cards and CL cards. For MP 2104, you cannot remove a PS card.*

Table 3-46. Card Level Management Options - Agent Mode

Tasks - Configuration	Dialog Box and Parameter Location	Path
Displaying card information	Card Information dialog box (*Figure 3-46*)	Configuration ➥Card Info…
Displaying card layout view	Card Layout View (*Figure 3-45*)	Configuration ➥Zoom

Zooming to Card View

Figure 3-44. Configuration Menu

You may display a more detailed view of the cards, including individual ports.

➤ **To open the card layout view of a specific card:**

- In the Megaplex Hybrid Level click the card and then select **Configuration > Zoom**

  Or: Double click the card.

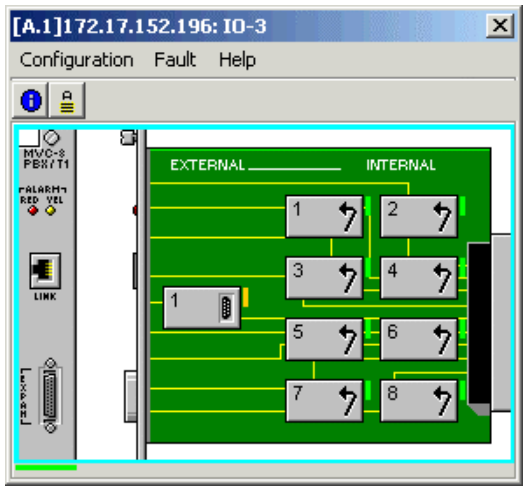


Figure 3-45. A Card Layout Agent Mode

➤ **To exit the Card View:**

- Click on the ✕ in the upper right-hand corner of the Card Layout View window.

Displaying Card Configuration Information

The Card Info command displays software and hardware version numbers of the selected card.

➤ **To display software and hardware version numbers for a specific card:**

1. Select the card in the mux.
2. Perform one of the following:
   - Select **Configuration > Card Info...**

   Or

   Click the **Card Info** button .

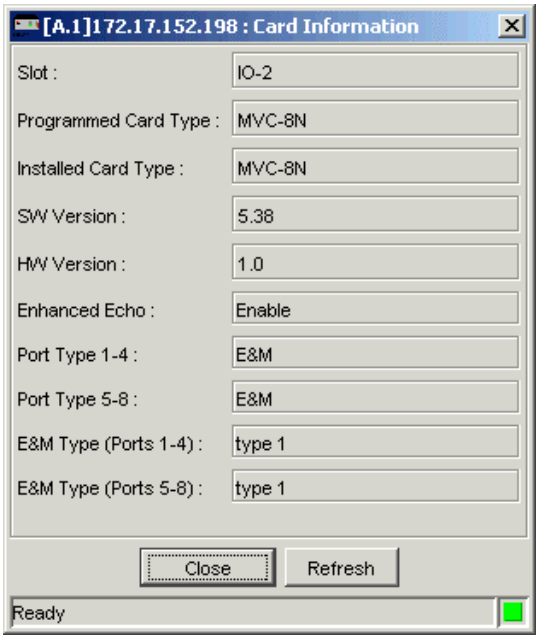


Figure 3-46. Card Information Dialog Box

Note *Parameters vary based on the type of card.*

Table 3-47. Card Information Parameters

Parameter	Possible Values
Slot	Slot in which the selected card is inserted
Programmed Card Type	Type of the selected card
Installed Card Type	Type of the selected card
SW Version	Software version number
HW Version	Hardware version number
Enhanced Echo	**Disabled, 16ms, 32ms**
Port Type	**E & M, FXO, FXS**
E & M Type	**type1, type2, type3, ssdc5**

3.5 Agent Port Level Configuration Operations

RADview provides management and monitoring functions at the Port Level.

In the Card Layout View, you select a port by clicking it. A selected port is outlined by blue border.

Table 3-48. Port Level Management Options

Tasks - Configuration	Dialog Box and Parameter Location	Path
Setting port information	Port Information dialog box (*Figure 3-48*)	Configuration ➥Port Info…
Setting Timeslots	Timeslots table (*Figure 3-85*)	Configuration ➥TS Assignment…

Displaying Port Information

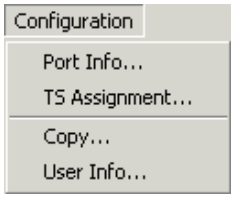


Figure 3-47. Configuration Menu

The Port Info command displays information and software configuration of the selected port.

➤ **To display information about a port:**

- In the Card Layout View, double click a port or click the required port and select **Configuration > Port Info**

  Or

  Click the **Port Info** button .

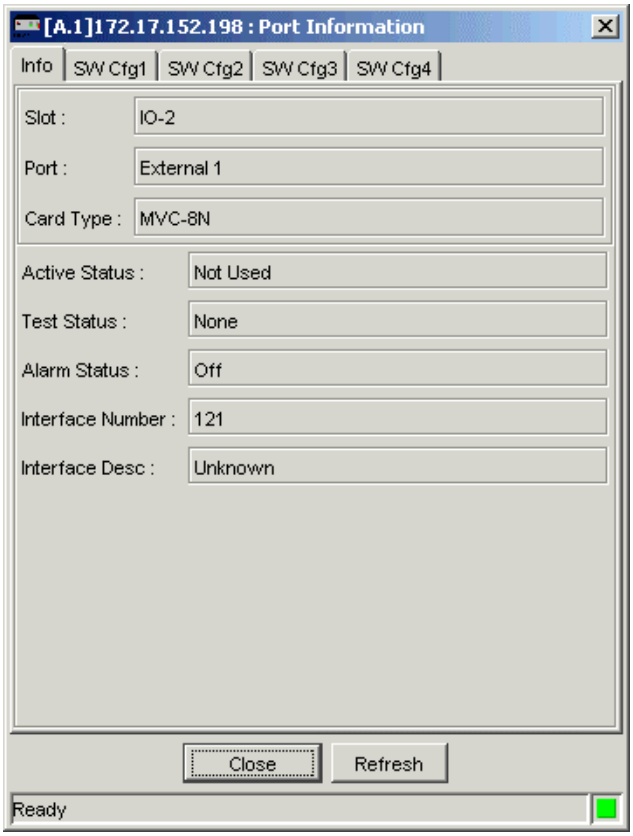


Figure 3-48. Sample Port Information Dialog Box

General information and software configuration information can be displayed by selecting the various tabs.

Table 3-49. Port Information Parameters

Parameter	Possible Values
Slot	Slot in which the selected card is inserted **CL-A**, **CL-B**, **IO-1..IO-12** For MP-2104H**: IO-1..IO-5**
Port	Number of the selected port **external-1..external-12**, **internal-1..internal-12**
Card Type	Type of the selected card
Active Status	Activity status of the selected port **Unknown** - The port information is not supported. **Not Used** - Channel is not connected according to the current configuration. **Offline** - Channel is down. **Online** - Channel is up. **Offline Redundancy** - Redundant channel is down. **Online Redundancy** - Redundant channel is now up and is the active link.
Test Status	Indicates if a test is currently running on the selected port **Active** and **Not Active**

Table 3-50. Port Information Parameters (cont.)

Parameter	Possible Values
Alarm Status	Indicates if alarms or events exist in the selected port **Off** - No alarms or events in port **Event** - At least one alarm event (including state on, off events) since the last Alarms>Clear operation **Major** - At least one active major alarm since the last Alarms>Clear operation **Minor** - At least one active minor alarm since the last Alarms>Clear operation
Interface Number	Unique identifying number assigned to the selected port
Interface Desc	Hardware interface type of the selected port

Port Software Configuration

The following sections contain descriptions of the Agent Mode Port Information dialog boxes of the MCL-2/ETH management card, various Hybrid cards (MTML) and Packet Switch cards (HS-R, LS-6/N, MVC-8, VC-6).

MCL-2/ETH Port Software Configuration

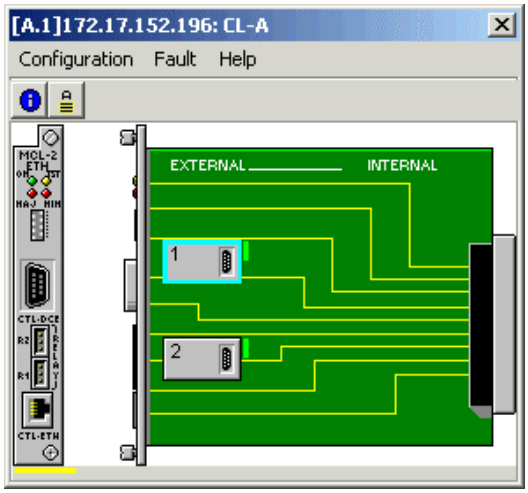


Figure 3-49. MCL-2/ETH Card Layout View

The common logic card (CL) stores the Megaplex Hybrid configuration and event information, and communicates with the network management station through an SNMP agent.

- For MP-2100H and MP-2104H, the MCL-2/ETH card is the common logic card.

➤ **To view software configuration of an MCL-2/ETH card external port:**

1. In the Agent mode, double-click an MCL-2/ETH card.
2. In the Card Layout View, double-click an external port

   Or

   In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

3. Click the **SW Cfg** tab.

   In the MCL-2/ETH cards' Port Information dialog box, the SW Cfg tab displays software configuration parameters for the selected port.

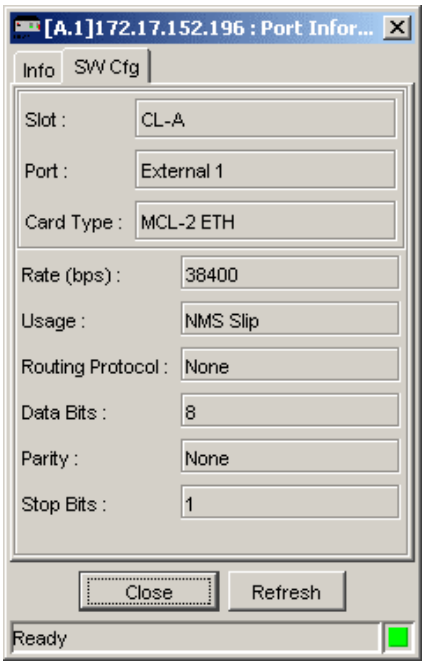


Figure 3-50. SW Cfg Parameters - MCL-2/ETH Cards

Table 3-51. SW Cfg Parameters - MCL-2/ETH Cards

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is inserted: **CL-A, CL-B**
Port	Number of the selected port: **External-1**
Card Type	Type of the selected card **MCL-2/ETH**
Rate (bps)	Operational speed of the selected port in bps **300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200**
Usage	Function of the selected port **Unknown, No Use, NMS Slip, NMS PPP, MUX Slip, MUX PPP, Terminal**
Routing Protocol	Routing protocol used on the selected port: **None, RIP2**
Data Bits	Number of data bits in the word format transmitted through the selected port: **7, 8**
Parity	Parity mode used by the selected port: **None, Odd, Even**
Stop Bits	Minimum number of stop bits in the word format transmitted through the selected port **1, 1.5, 2**

MTML-1/T1 (DSU), MTML-1/T1 (CSU) Port Configuration

➤ **To display port information of an MTML-1/T1 external port:**

1. In the Agent Configuration mode, double-click an MTML-1/T1 card.
2. In the Card Layout View, click a port and select **Configuration** > **Port Info**

   Or

   Click the **Port Info** button .

The information appears under the following tabs: **Info**, **SW Cfg>>**, **<<SW Cfg**, and **ML Rdn**.

Software Configuration>> SW Cfg>>

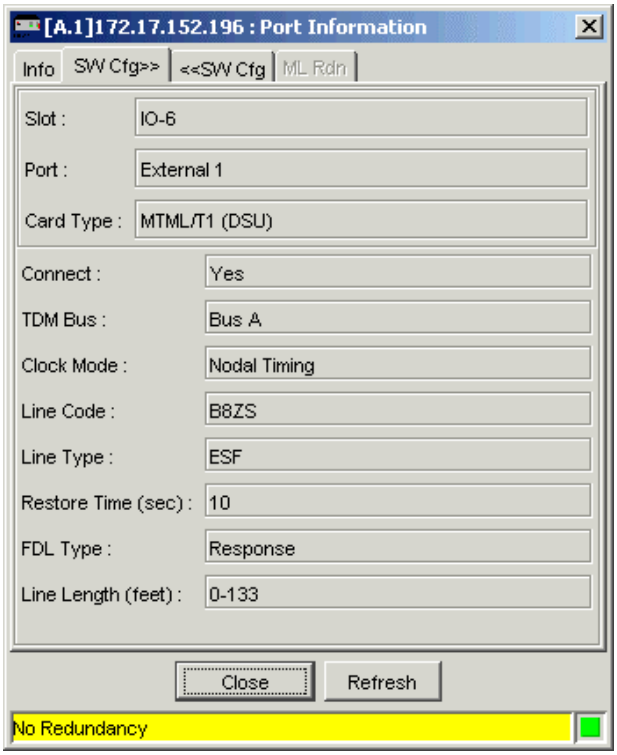


Figure 3-51. SW Cfg>> Parameters - MTML-1/T1 (DSU, CSU)

Table 3-52. SW Cfg>> Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No** , **Yes**
TDM Bus	The bus over which the MP-2100H transfers data from the TDM cards: **Bus_A, Bus_B**
Clock Mode	The clock operation mode of the interface: **Nodal Timing**
Line Code	The line code parameter of the interface: **B8ZS, B7, TRANS**
Line Type	**D4, ESF**
Restore Time (sec)	The time required in seconds to restore normal service after the end of a loss of synchronization condition: **1, 10**
FDL Type	The side of the FDL that the selected port is located. This parameter is only applicable if Frame is set to ESF. **Response**: indicates the user side **Command**: indicates the PTT side
Line Length (feet)	The line length. This parameter is applicable only for T1/DSU cards. **0-133, 134-266, 267-399, 400-533, 534-655, FCC-68**

Software Configuration << <<SW Cfg

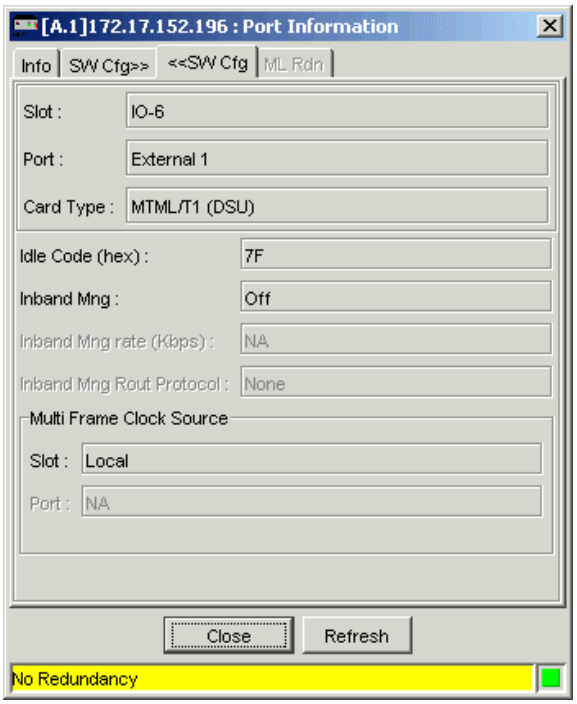


Figure 3-52. <<SW Cfg Tab Dialog – MTML-1/T1 (DSU, CSU)

Table 3-53. <<SW Cfg Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Idle Code (hex)	Hexadecimal code transmitted to fill idle (unused) timeslots in frames transmitted through the selected port **01..FF**
Inband Mng	Identifier of inband management over the link **Off, FDL or TS0, Dedicated TS, Dedicated TS/PPP, Dedicated FR**
Inband Mng Rate (Kbps)	Rate of inband management (if **inband mng** = **Off** then this paramter will be blank) **8, 16, 32, 64**
Inband Mng Rout Protocol	**None, RIP2, Proprietary**
TX Gain	Attenuation value that brings the signal level closer to the expected repeater signal level on the cable. This parameter is only applicable for T1 (CSU) cards. **0, 7.5, 15.0, 22.5 dBm**
RX Sensitivity	Rx line sensitivity of the selected port. This parameter is only applicable for T1 (CSU) cards. **26, 36 dBm**
Multi Frame Clock Source	The Multi Frame Clock Source group is used to bypass signaling of PCM voice channels.
Slot	Indicates whether the selected port's Tx multiframe is synchronized with the Rx multiframe of another port and its slot position. The slot must contain an MTML card. If the port is not connected to a TDM bus, this value is Local. **Local, IO-1..IO-12**
Port	Port number in the Multi Frame Clock Source slot. This parameter is only applicable if the slot number is **IO-1..IO-12**. **External-1**

Main Link Redundancy Tab ML Rdn.

The parameters of the Main Link Redundancy tab are read-only. They are described in *Table 2-12. Redundancy Table Parameters*.

Connect Tab Connect

Note *The Connection group parameters are available only if Mediation is set to Direct.*

Table 3-55. Connect Tab Parameters- MTML-1/T1 (DSU, CSU)

Parameter	Possible Values / Remarks
Mediation	**Direct, Fractional**
Connect Type	TDM Service, TDM User
Connect Mux	MP-2100H in the net which is connected to the selected port
Connect Slot	Slot in the connected MP-2100H that is connected to the selected port **Unknown, IO-1..IO-15**
Connect Port	Port in the connected MP-2100H that is connected to the selected port **Unknown, External 1..External 12, Internal 1..Internal 28**

LS-6/N External Port Configuration

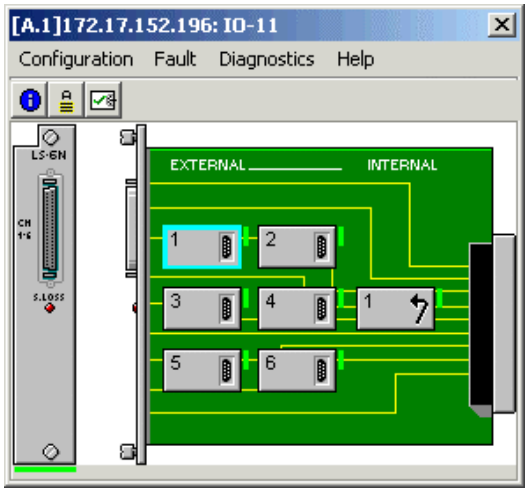


Figure 3-53. LS-6N Card Layout View

➤ **To display port information of an LS-6/N card external port:**

1. In the Agent mode, double-click an LS-6/N card.
2. In the Card Layout View, double click the external port.

   Or

   In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under two tabs: **Info** and **SW Cfg.**

Software Configuration SW Cfg

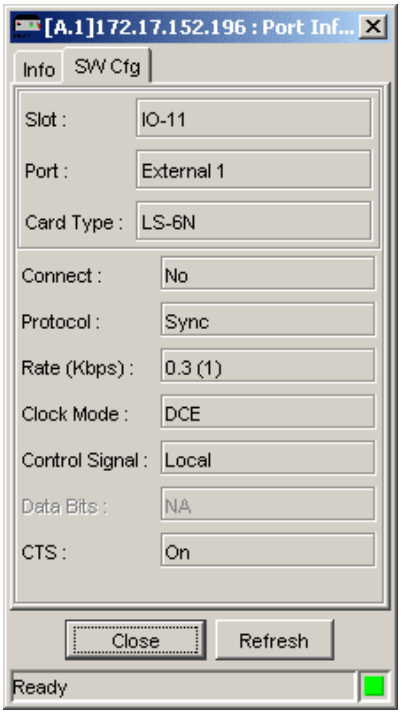


Figure 3-54. SW Cfg Parameters - LS-6/N Cards

Table 3-56. SW Cfg Tab - LS-6/N Cards

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No**, **Yes**
Protocol	Type of protocol used in the selected port **Sync, Async**
Rate (Kbps)	The baud rate of the selected port depends on the Protocol value If Protocol = Async: **0.3, 0.6, 1.2, 2.4, 4.8, 7.2, 9.6, 14.4, 19.2, 28.8, 38.4, 57.6** kbps If Protocol = Sync: **0.3, 0.6, 1.2, 2.4, 4.8, 7.2, 8.0, 9.6, 14.4, 16.0, 19.2, 24.0, 28.8, 32.0, 38.4, 48.0, 56.0, 57.6, 64.0** kbps
Clock Mode	Indicates if the card receives or supplies timing This parameter is only applicable if Protocol = Sync. **DCE, Ext DCE, DTE**
Control Signal	**Local, RTS, DTR & RTS**
Data bits	This parameter is only applicable if Protocol = Async. **6, 7, 8, 9**
CTS	**On, RTS**

LS-6/N Internal Port Configuration

➤ **To display port information of an LS-6/N card internal port:**

1. In the Agent mode, double-click an LS-6/N card.
2. In the Card Layout View, double click the internal port.

   Or

   In the Card Layout View, click the internal port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under two tabs: **Info** and **SW Cfg.**

Software Configuration SW Cfg

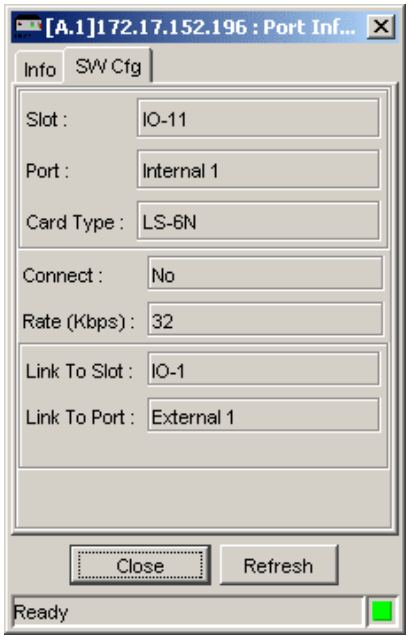


Figure 3-55. SW Cfg Parameters - LS-6/N Cards

Table 3-57. SW Cfg Tab - LS-6/N Cards

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No**, **Yes**
Rate (Kbps)	The baud rate of the selected port **14.4, 32, 56, 64, 128, 192, 256, 384, 512** kbps Default: **64**
Link to Slot	Only displays slots containing ML cards **IO-1..IO-12** Default: First ML Slot
Link to Port	**External 1, External 2, Internal 1**

HS-R External Port Configuration

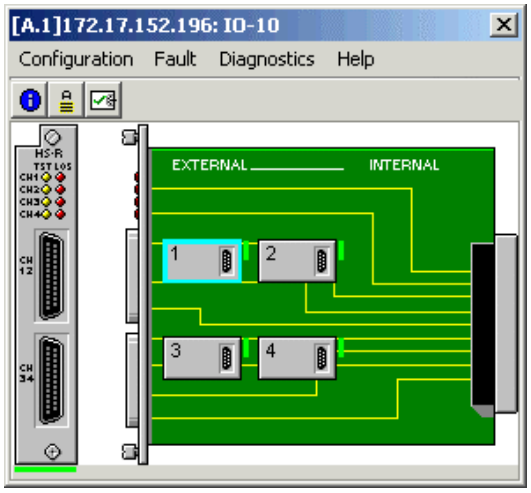


Figure 3-56. HSR Card Layout View

➤ **To display port information of an HS-R card external port:**

1. In the Agent mode, double-click an HS-R card.
2. In the Card Layout View, double click the external port

   Or

   In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under two tabs: **Info** and **SW Cfg.**

Software Configuration SW Cfg

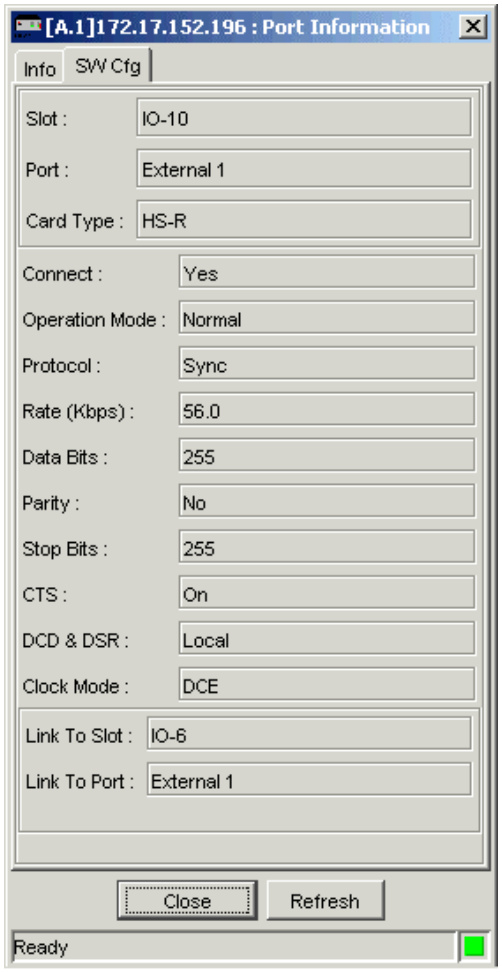


Figure 3-57. SW Cfg Parameters - HS-R Cards

Table 3-58. SW Cfg Tab - HS-R Cards

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No**, **Yes**
Operation Mode	**Normal, Unidirectional Rx, Broadcast**
Protocol	Type of protocol used in the selected port **Sync, Async**
Rate (Kbps)	The baud rate of the selected port depends on the Protocol value If Protocol = Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4** kbps If Protocol = Sync: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 48.0, 56.0, 64.0** kbps
Data bits	This parameter is only applicable if Protocol = Async. **5, 6, 7, 8**

Parameter	Possible Values / Remarks
Parity	This parameter is only applicable if Protocol = Async. **Yes, No**
Stop Bits	This parameter is only applicable if Protocol = Async. **1, 2**
CTS	**On, RTS**
DCD & DSR	**Local, End to end**
Clock Mode	Indicates if the card receives or supplies timing This parameter is only applicable if Protocol = Sync. **DCE, Ext DCE**
Link to Slot	**IO-1..IO-12**
Link to Port	**External 1..External 2, Internal 1**

MVC-8/T1-DSU-FRAMER Configuration - External Port

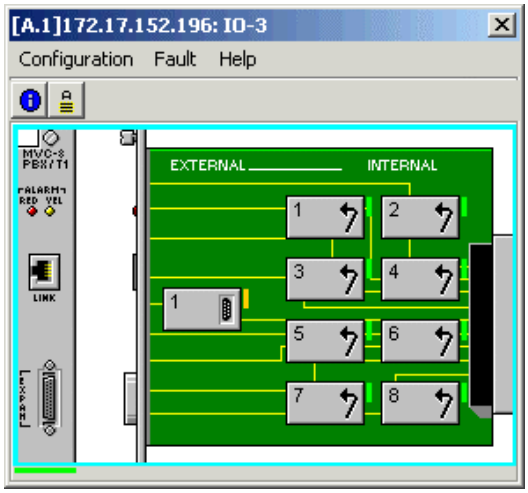


Figure 3-58. MVC-8/T1-DSU-FRAMER Card Layout View

➤ **To display software configuration of an MVC-8/T1-DSU-FRAMER card external port:**

1. In the Agent Configuration mode, double-click an **MVC-8/T1-DSU-FRAMER** card.
2. In the Card Layout View, click the external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under one tab: **SW Cfg**.

SW Cfg Tab

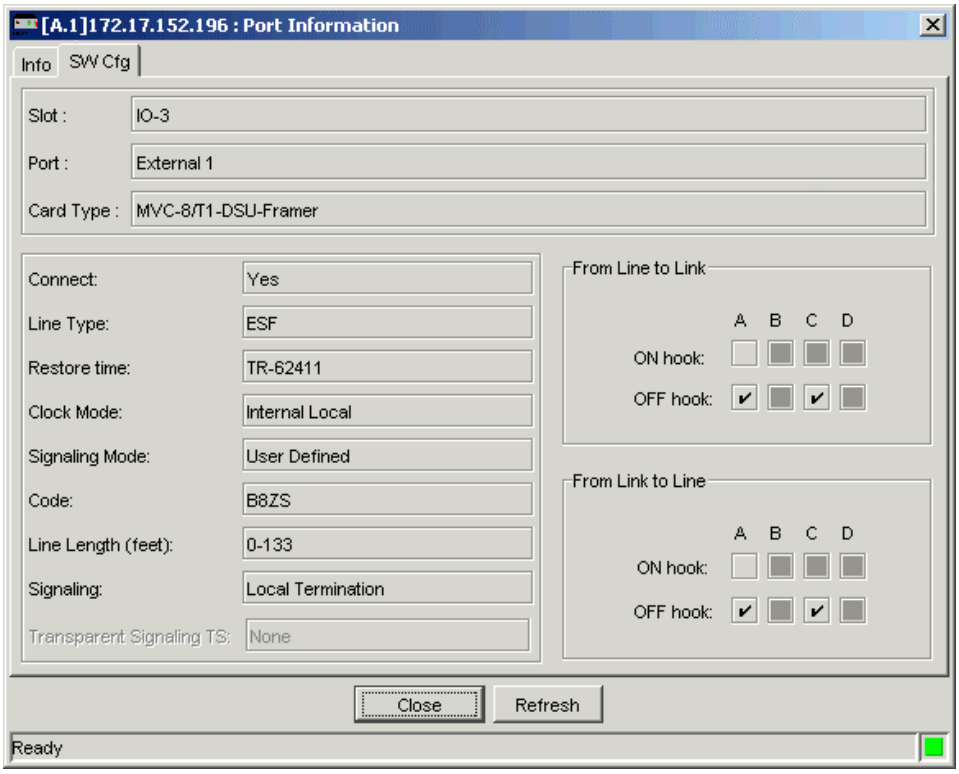


Figure 3-59. SW Cfg Tab Parameters - MVC-8/T1-DSU-FRAMER - External Port

Table 3-59. SW Cfg Tab - MVC-8/T1-DSU-FRAMER - External Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes**
Line Type	Line type of the interface **D4 (SF), ESF**
Restore Time	Time required to restore normal service after the end of a loss of synchronization condition **Fast, TR-62411**
Clock Mode	Clock operation mode of the interface **Internal, Loopback**
Signaling Mode	**Tie Trunk, Tie Invert, User Defined, CCS Transparent, No Signaling**
Code	Line code parameter of the interface **B8ZS**, **B7**, **TRANS**
Line Length (feet)	Line length **0-133, 134-266, 267-399, 400-533, 534-655, FCC68**
Signaling	**End to End, Local Termination**
Transparent Signaling TS	**1..24, None** Default: **24**
From Line to Link	Signaling bits. Each bit has three states: **Off** (unchecked), **On** (checked), and **Don't Care** (grey).
From Link to Line	Signaling bits. Each bit has three states: **Off** (unchecked), **On** (checked), and **Don't Care** (grey).

➤ **To display the time switching assignment information for an MVC-8/T1-DSU-FRAMER card external port:**

1. In the Agent **Configuration** mode, double-click an MVC-8/T1-DSU-FRAMER card.
2. In the Card View, click the external port and select **Configuration > TS Assignment…**

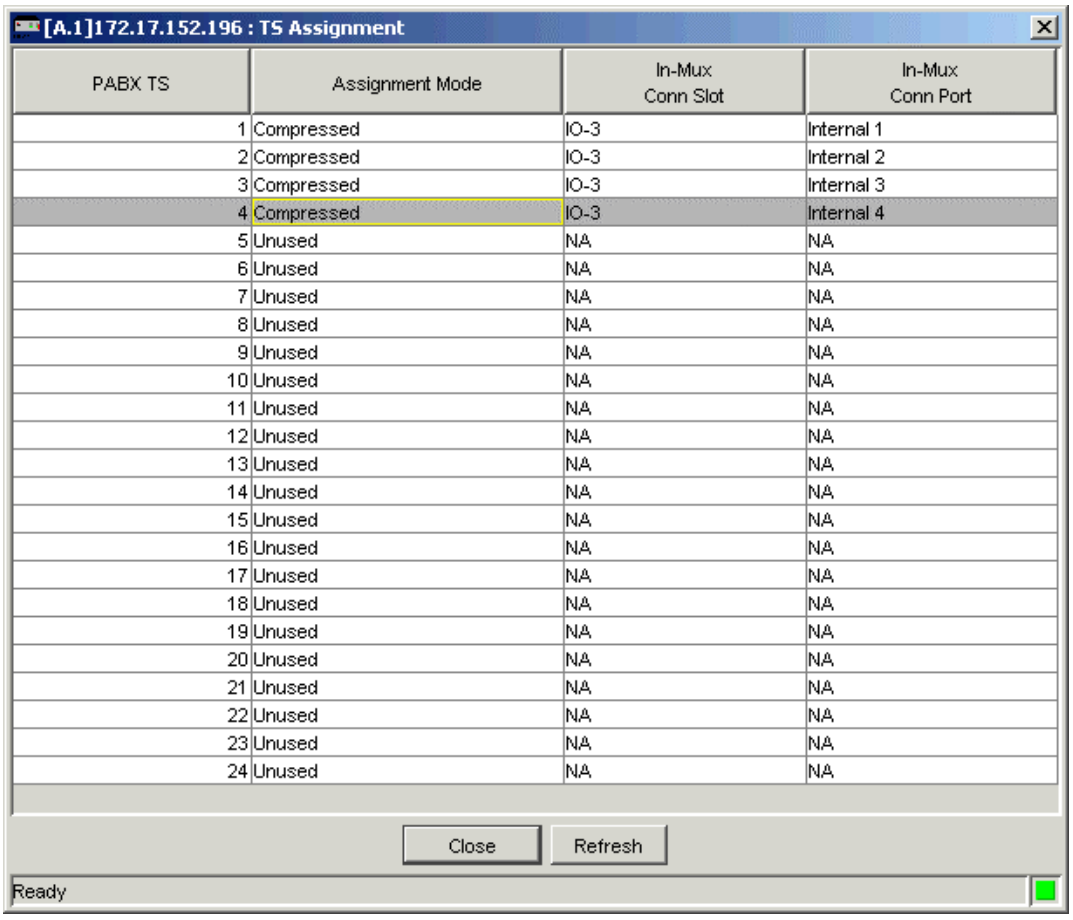


Figure 3-60. TS Assignment Dialog Box for the MVC-8/T1-DSU and the MVC-8/T1-DSU-FRAMER cards

Table 3-60. TS Table - MVC-8/T1-DSU-FRAMER - External Port

Parameter	Possible Values / Remarks
PABX TS	T1: **1..24** E1: **1..31**
Assignment Mode	**Unused, Compressed, Transparent**
In-Mux Conn Slot	**--, IO-1..IO-12**
In-Mux Conn Port	**--, Internal-1..Internal-4**

MVC-8/T1-DSU-FRAMER Configuration - Internal Port

➤ **To display software configuration of an MVC-8/T1-DSU-FRAMER card internal port:**

1. In the Agent Configuration mode, double-click an **MVC-8/T1-DSU-FRAMER** card.
2. In the Card Layout View, click an internal port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under three tabs: **SW Cfg1, SW Cfg2,** and **SW Cfg3**.

SW Cfg1 Tab

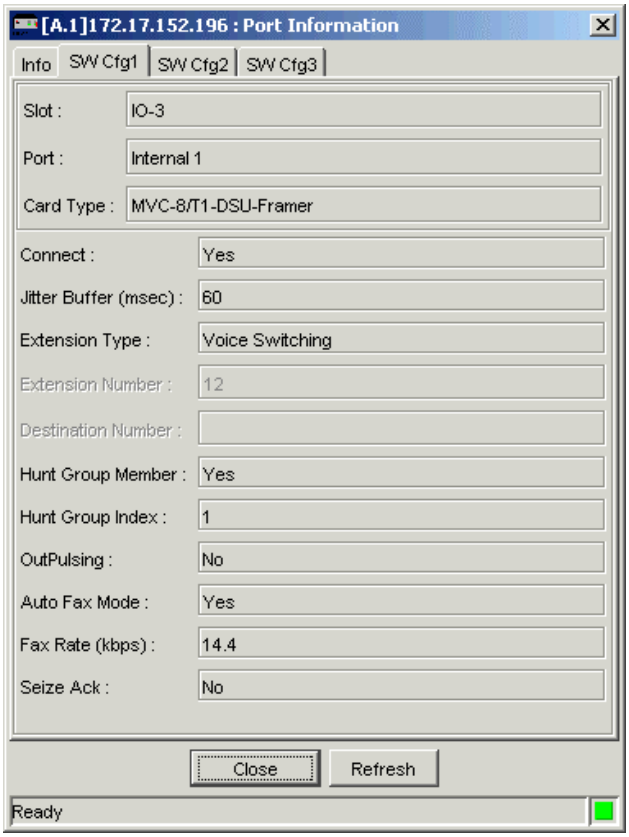


Figure 3-61. SW Cfg1 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-61. SW Cfg1 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes**
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270 and 300**
Extension Type	**Force Connect, Voice Switching, Auto Dial, Permanent Dial, Auto Accept**
Extension Number	Enable only when Extension = Auto Accept or Voice Switching **00..99**
Destination Number	Enable only when Extension=Auto 1 to 22 digits
Hunt Group Member	**NA, No, Yes**
Hunt Group Index	**NA, 1..10**
OutPulsing	**NA, No, Yes**
Auto Fax Mode	**No, Yes**
Fax Rate (kbps)	**2.4, 4.8, 7.2, 9.6, 12, 14.4**
Seize Ack	**No, Yes**

SW Cfg2 Tab

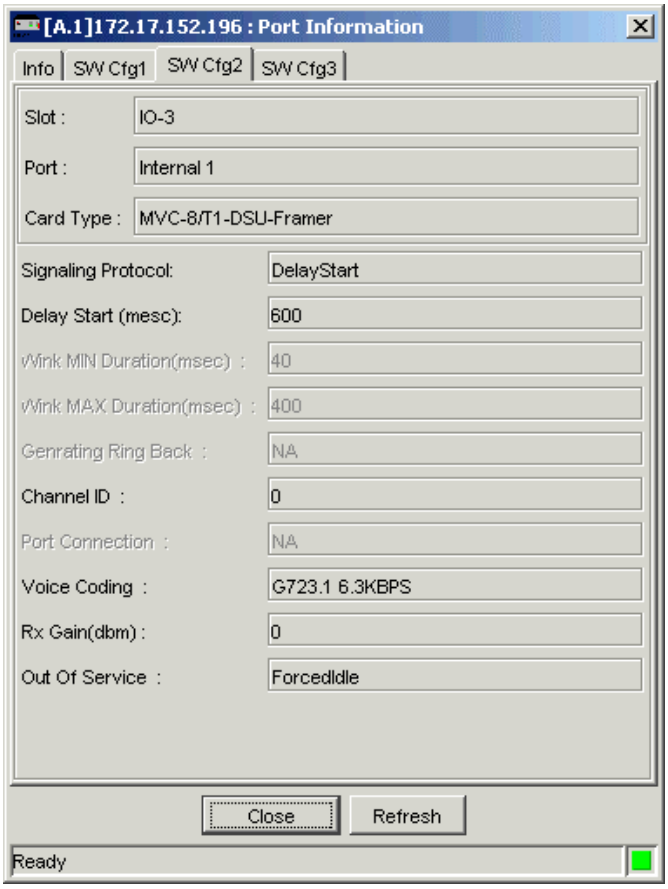


Figure 3-62 SW Cfg2 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-62. SW Cfg2 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
Signaling Protocol	**Delay Start, Immediate Start, Wink Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100..5000**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10
Generating Ring Back	**Yes, No, NA**
Channel ID	**1..256**
Port Connection	**Line, Trunk**
Voice Coding	
Rx Gain (dBm)	**-31..5**
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state.

SW Cfg3 Tab

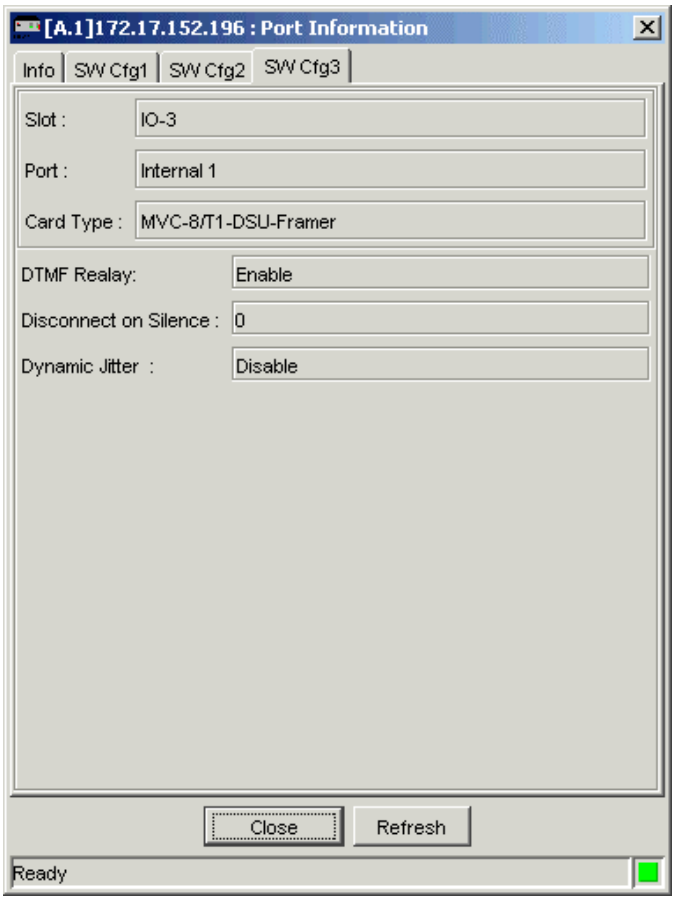


Figure 3-63. SW Cfg3 Tab Parameters - MVC-8/T1-DSU-FRAMER - Internal Port

Table 3-63. SW Cfg3 Tab - MVC-8/T1-DSU-FRAMER - Internal Port

Parameter	Possible Values / Remarks
DTMF Relay	**Enable** (Checked), **Disable**
Disconnect on Silence	**0-Disable, 10..900**
Dynamic Jitter	**Enable** (Checked), **Disable** (unchecked)

MVC-8N Configuration - External Port

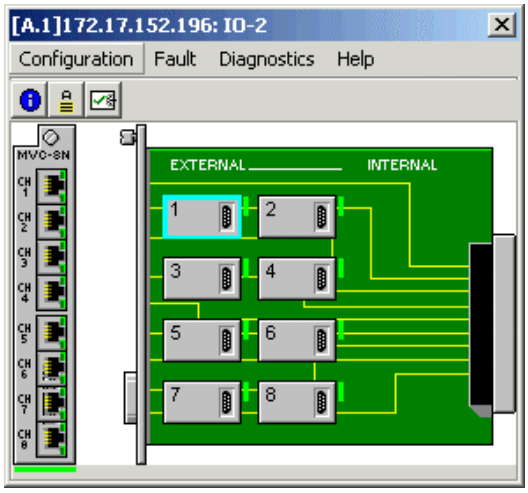


Figure 3-64. MVC-8N Card Layout View

➤ **To display software configuration of an MVC-8N card external port:**

1. In the Agent Configuration mode, double-click an **MVC-8N** card.
2. In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under four tabs: **SW Cfg1, SW Cfg2, SW Cfg3,** and **SW Cfg4**.

SW Cfg1 Tab

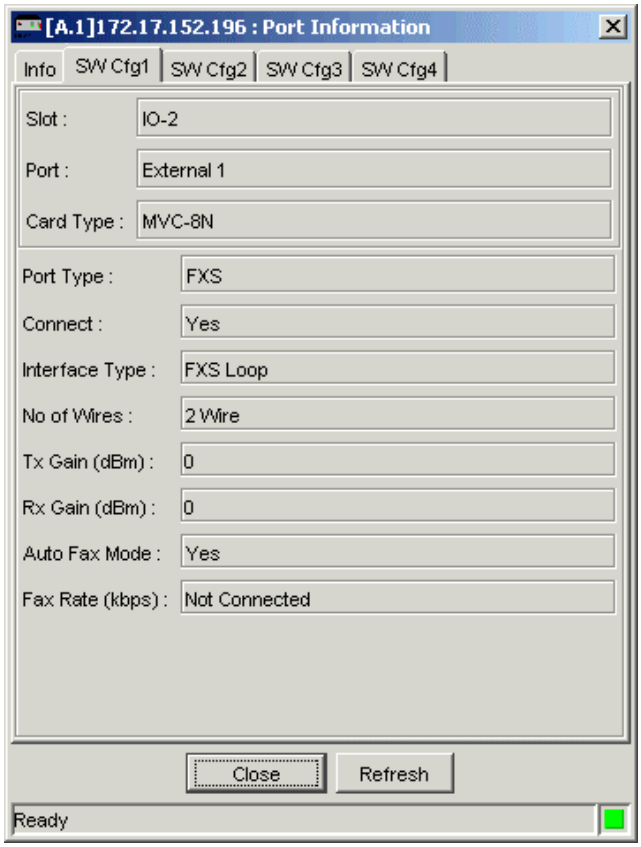


Figure 3-65. SW Cfg1 Tab Parameters - MVC-8N

Table 3-64. SW Cfg1 Tab - MVC-8N - External Port

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes**
Interface Type	**2 Wires, 2/4 Wires**
No of Wires	For Interface Type = 2 Wires: **2 Wire** For Interface Type = 2/4 Wires: **2 Wire, 4 Wire** Default: **4 Wire**
Tx Gain (dBm)	E&M Ports: **-10**..**7** FXO Ports: **-9**..**5** FXS Ports: **-10**..**8**
Rx Gainf (dBm)	E&M Ports: **-24**..**2** FXO Ports: **-25**..**1** FXS Ports: **-17**..**2**
Auto Fax Mode	**No, Yes**
Fax Rate (kbps)	Enabled only when Auto Fax Mode=Yes **2.4, 4.8, 9.6, 12, 14.4**

SW Cfg2 Tab

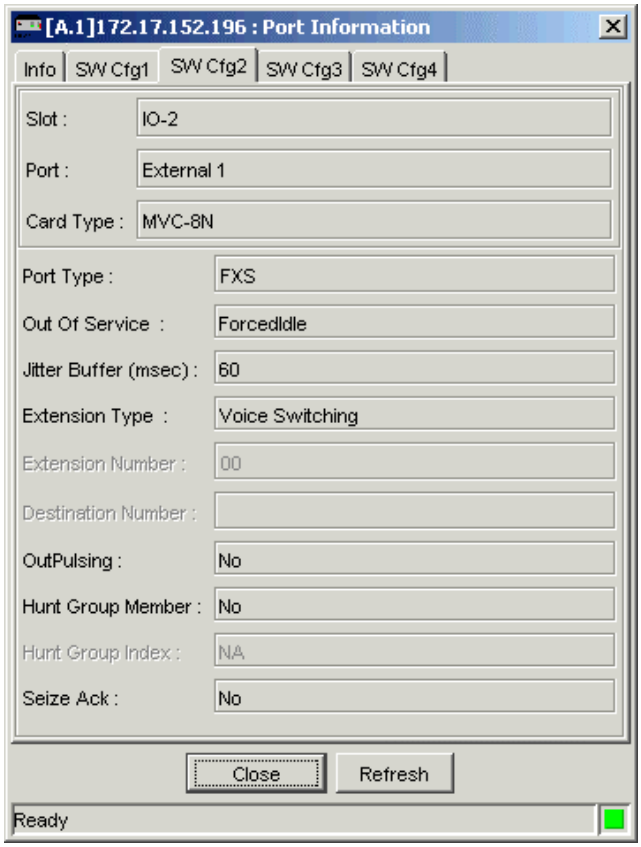


Figure 3-66. SW Cfg2 Tab Parameters - MVC-8N

Table 3-65. SW Cfg2 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state.
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270 and 300**
Extension Type	**Force Connect, Voice Switching, Auto Dial, Permanent Dial, Auto Accept**
Extension Number	2 characters
Destination Number	Enabled only when Extension=Auto **1 to 22 digits**

Parameter	Possible Values / Remarks
OutPulsing	**NA, No, Yes**
Hunt Group Member	**NA, No, Yes**
Hunt Group Index	**NA, 1..10**
Seize Ack	**Yes, No**

SW Cfg3 Tab

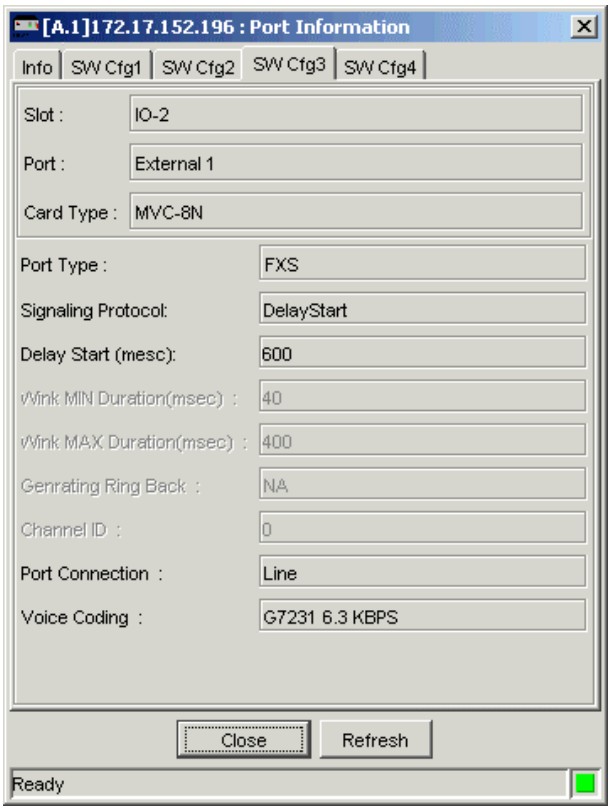


Figure 3-67. SW Cfg3 Tab Parameters - MVC-8N

Table 3-66. SW Cfg3 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
Signaling Protocol	**Delay Start, Immediate Start, Wink Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100..5000**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40..400** in intervals of 10
Generating Ring Back	**Yes, No, NA**
Channel ID	**1..256**
Port Connection	**Line, Trunk**
Voice Coding	**G7231 6.3 KBPS**

SW Cfg4 Tab

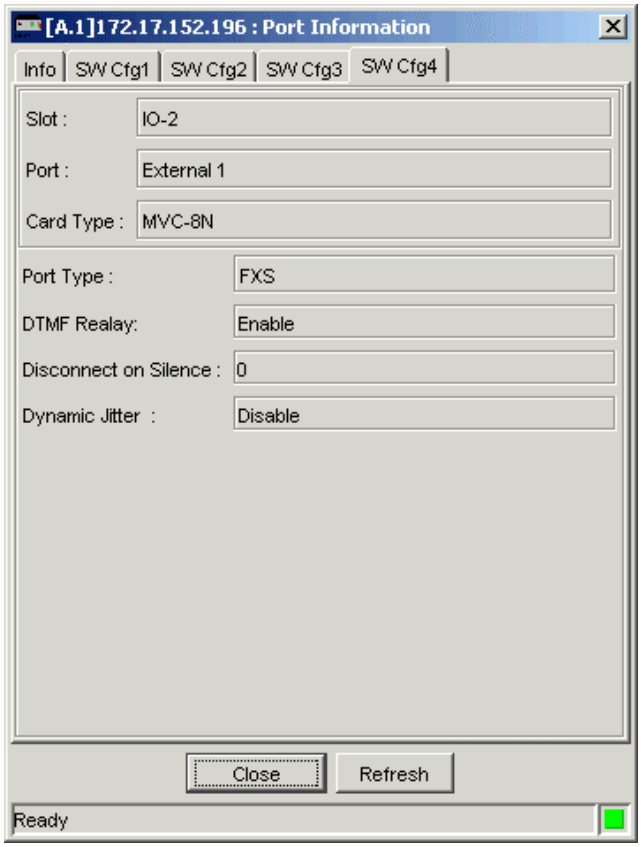


Figure 3-68. SW Cfg4 Tab Parameters - MVC-8N

Table 3-67. SW Cfg4 Tab - MVC-8N

Parameter	Possible Values / Remarks
Port Type	**E&M, FXO, FXS**
DTMF Relay	**Enable** (Checked), **Disable**
Disconnect on Silence	**0-Disable, 10..900**
Dynamic Jitter	**Enable** (Checked), **Disable** (unchecked)

MVC-8-SLAVE Configuration - Internal Port

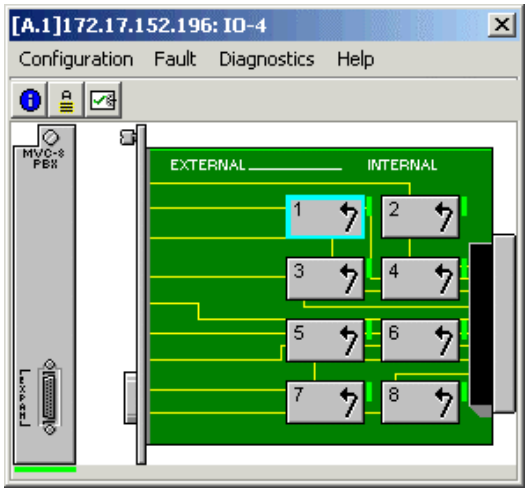


Figure 3-69. MVC-8-SLAVE Card Layout View

➤ **To display software configuration of an MVC-8-SLAVE card internal port:**

1. In the Agent **Configuration** mode, double-click an MVC-8-SLAVE card.
2. In the Card Layout View, click an internal port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under three tabs: **SW Cfg1, SW Cfg2,** and **SW Cfg3**.

SW Cfg1 Tab

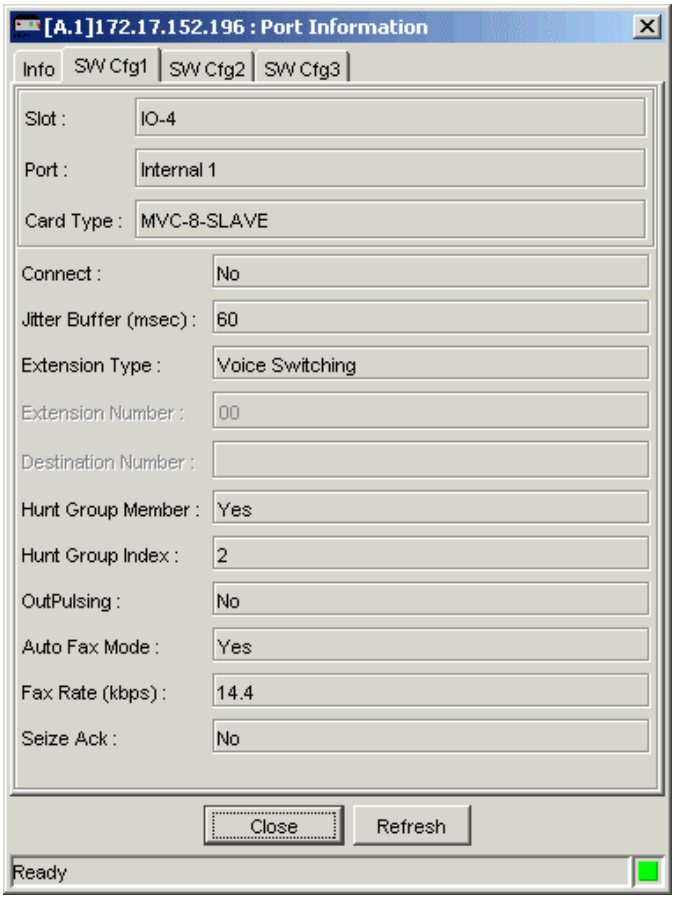


Figure 3-70. SW Cfg1 Tab Parameters - MVC-8-SLAVE

Table 3-68. SW Cfg1 Tab - MVC-8-SLAVE - Internal Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes** Default**: No**
Jitter Buffer (msec)	Maximum variant delay (in msec) of the Frame Relay network **0, 30, 60, 90, 120, 150, 180, 210, 240, 270** and **300** Default: **60**
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Default: **Force Connect**
Extension Number	Enabled only when Extension Type=Voice Switching or Auto Accept 2 characters **00..99** Default: **01..08** for ports 1-8
Destination Number	Enabled only when Extension Type=Auto Dial or Permanent Dial **1 to 22 digits**

Parameter	Possible Values / Remarks
Hunt Group Member	**NA, No, Yes** Default: **NA**
Hunt Group Index	**NA, 1..10** Default: **NA**
OutPulsing	**NA, No, Yes** Default: **NA**
Auto Fax Mode	**No, Yes** Default: **Yes**
Fax Rate (kbps)	Enabled only when Auto Fax Mode=Yes **2.4, 4.8,7.2, 9.6, 12, 14.4** Default: **14.4**
Seize Ack	**NA, Yes, No**

SW Cfg2 Tab

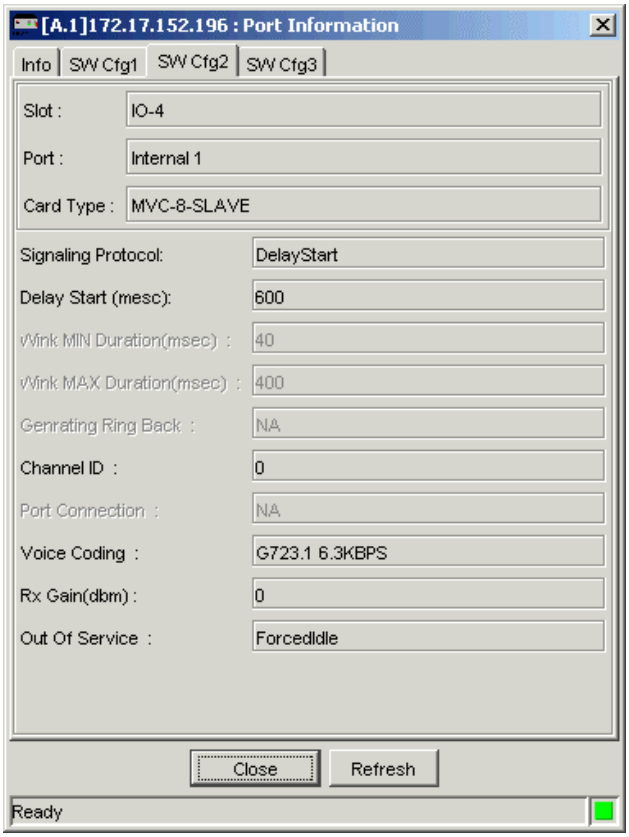


Figure 3-71. SW Cfg2 Tab Parameters - MVC-8-SLAVE

Table 3-69. SW Cfg2 Tab - MVC-8-SLAVE

Parameter	Possible Values / Remarks
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**
Delay Start (msec)	Enabled only when Signaling Protocol=Delay Start **100**..**5000** Default: **600**
Wink MIN Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Wink MAX Duration (msec)	Enabled only when Signaling Protocol=Wink Start **40**..**400** in intervals of 10 Default: **40**
Generating Ring Back	**Yes, No, NA** Default: **No**
Channel ID	**1**..**256** Default: **1**
Port Connection	**Line, Trunk** Default: **Line**
Voice Coding	Default: **G7231 6.3 KBPS**
Rx Gain (dBm)	**-31..5** Default: **0**
Out Of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state. Default: **Forced Idle**

SW Cfg3 Tab

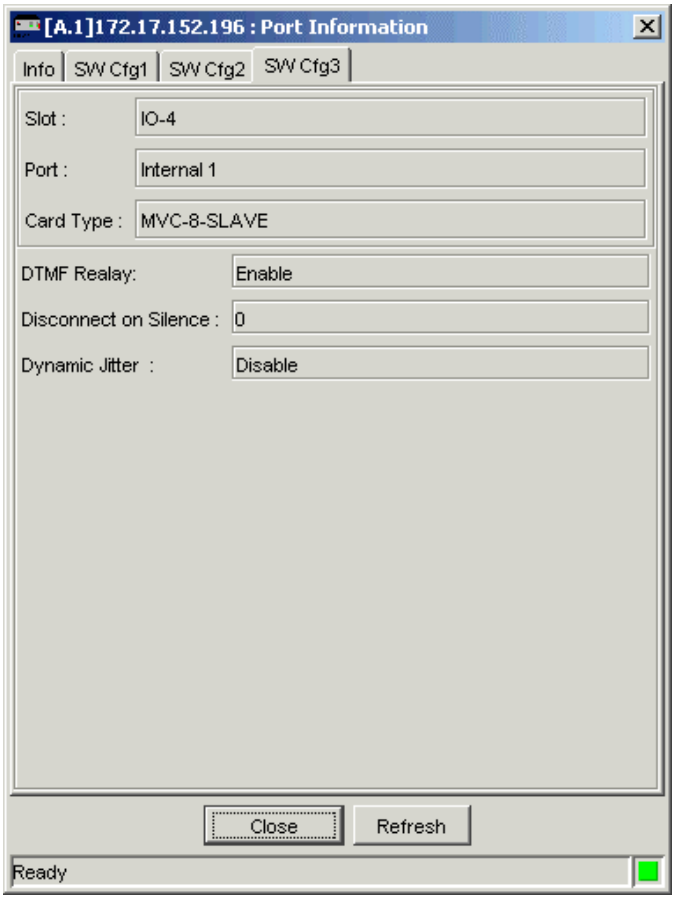


Figure 3-72. SW Cfg3 Tab Parameters - MVC-8-SLAVE

Table 3-70. SW Cfg3 Tab - MVC-8-SLAVE

Parameter	Possible Values / Remarks
DTMF Relay	**Enable, Disable** Default: **Enable**
Disconnect on Silence	**0,10..900** Default: **0**
Dynamic Jitter	**Enable, Disable** Default: **Disable**

VC-6 (FXS) Configuration - External Port

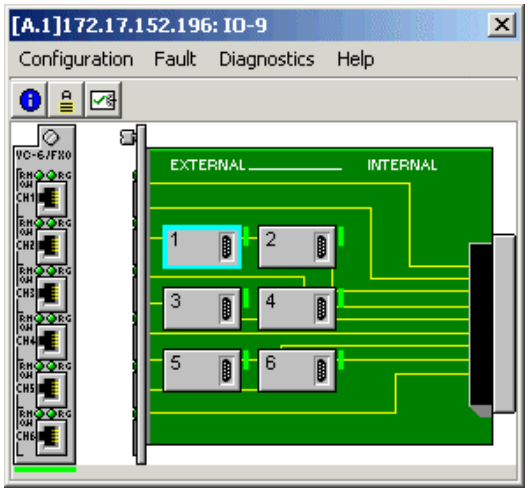


Figure 3-73. VC-6 (FXS) Card Layout View

➤ **To display software configuration of a VC-6 card external port:**

1. In the Agent Configuration mode, double-click a VC-6 card.
2. In the Card Layout View, click an external port and select **Configuration > Port Info**

   Or

   Click the **Port Info** button .

   The information appears under one tab: **SW Cfg**.

SW Cfg Tab

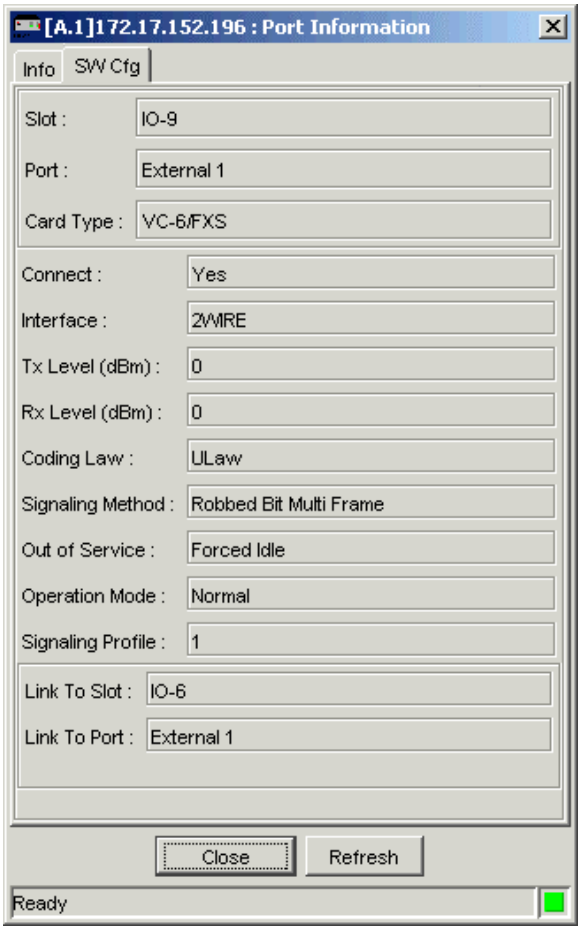


Figure 3-74. SW Cfg Tab Parameters - VC-6

Table 3-71. SW Cfg Tab - VC-6 - External Port

Parameter	Possible Values / Remarks
Connect	Indicates whether the port should be considered in any of the MP-2100H algorithms **No, Yes**
Interface	**2WIRE, 4WIRE**
Tx Level (dBm)	Transmit level
Rx Level (dBm)	Receive level
Coding Law	**ALaw, Ulaw**
Signaling Method	**No-signaling, RobbedBitMultiFrame, RobbedBitFrame, Ch Associated E1**

Parameter	Possible Values / Remarks
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state.
Operation Mode	**Normal, Unidirectional Rx, Broadcast**
Signaling Profile	Values will vary based on type of VC-6 card **1, 2, 3, 4**
Link To Slot	**IO-1..IO-12**
Link To Port	**External 1, External 2, Internal 1**

Displaying MVG-1-LAN Card Configuration

Note *When you perform Backup or Restore operations on various cards that include the MVG card, the Backup or Restore excludes the MVG card; you must perform a separate Backup or Restore for the individual MVG card.*

➤ **To display software configuration of the MVG-1-LAN card:**

- In the Agent **Configuration** mode, double-click on the MVG card.

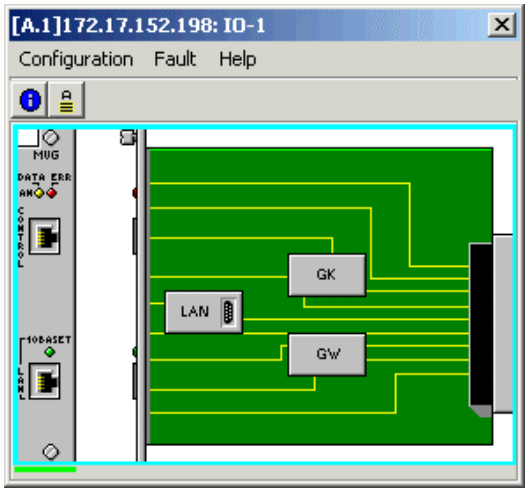


Figure 3-75. MVG Card Layout View

LAN Port

➤ **To display LAN information:**

- Double click the LAN port

  Or

  Select the LAN port and select **Configuration > LAN Info…**

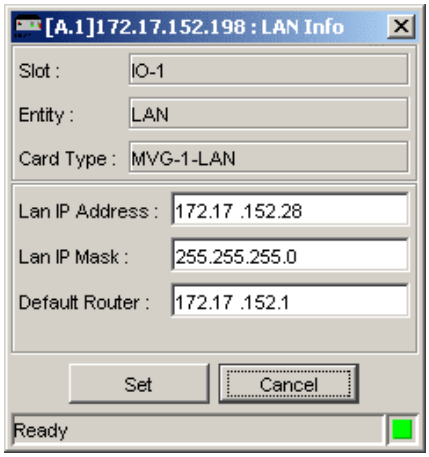


Figure 3-76. LAN Info

Table 3-72. LAN Info Parameters – MVG-1-LAN Card

Parameter	Possible Values / Remarks
LAN IP Address	**0.0.0.0. - 255.255.255.255**
LAN IP Mask	**0.0.0.0. - 255.255.255.0**
Default Router	**0.0.0.0. - 255.255.255.255**

Gatekeeper Port

➤ **To view Gatekeeper information:**

- Double click the GK port

  Or

  Select the GK port and select **Configuration > Gatekeeper Info…**

  The information appears under four tabs: **System, Zone, RAS, and Q.931**.

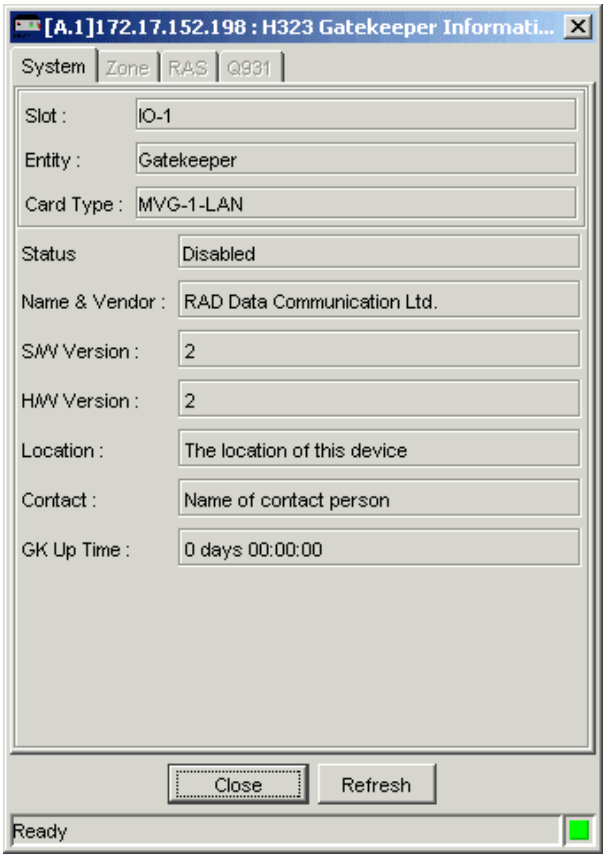


Figure 3-77. Gatekeeper Info – MVG-1-LAN Card

System Tab System

Table 3-73. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values / Remarks
Status	**Enabled, Disabled** Default: **Disabled**
Name & Vendor	ASCII String (Maximum 255 characters) Default: MVG Gatekeeper – RAD Ltd.
S/W Version	ASCII String (Maximum 255 characters)
H/W Version	ASCII String (Maximum 255 characters)
Location	ASCII String (Maximum 255 characters)
Contact	ASCII String (Maximum 255 characters)
GK Up Time	In YYYY-MM-DD HH:MM:SS format

Zone Tab Zone

Table 3-74. Gatekeeper Info Zone Parameters - MVG Card

Parameter	Possible Values / Remarks
Zone	**2-characters (maximum) ASCII string**
Zone Name	**20 characters (maximum) ASCII string**
IRQ Interval (sec)	**0..600** Default: **60**
Max Total B/W (Kbps)	Default: **1024**
Signaling Address Tag	**IP-V4**
Signaling Address	IP Address and Port number
Call Accept Policy	**Accept All, Registered Only, Predefined Only** Default: **Accept All**
Call Mode	**Direct, Routed** Default: **Direct**
Default Distance	**0..99** Default: **1**
Out of Zone Distance	**0..99** Default: **0**

RAS Tab RAS

Table 3-75. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values / Remarks
RAS Port no.	Default: **1719**
Registration Policy	**Accept All, Predefined Only** Default: **Accept All**
Call Accept	**Accept All, Registered Only, Predefined Only** Default: **Accept All**
Response Time Out (sec)	**5..30** Default: **20**
MAX No. of Retries	**1..200** Default: **3**

Q.931 Tab Q931

Table 3-76. Gatekeeper Info Q.931 Parameters - MVG Card

Parameter	Possible Values / Remarks
Q.931 Port no.	Default: **1722**
Connection Time Out T303 (sec)	**30..180** Default: **180**
Response Time Out T303 (sec)	**5..30** Default: **20**
MAX No. of Connections	**1..60** Default: **60**

H.323 Gateway Port

➤ **To view H.323 Gateway information:**

- Double click the GW port.

  Or

  Select the GW port and select **Configuration > Gateway Info…**

  The information appears under six tabs: **System, General, RAS, Q.931, H.245, and RTP**.

System Tab

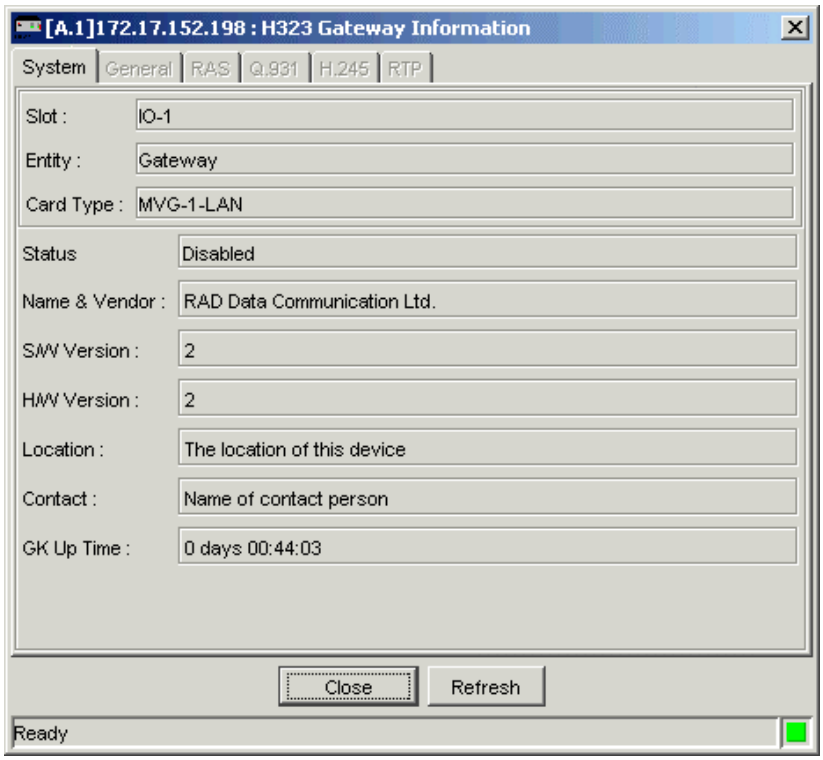


Figure 3-78. Gateway System Tab - MVG-1-LAN Card

Table 3-77. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values / Remarks
Status	**Disable, CVS IP, Standard** Default: **Disable**
Name & Vendor	ASCII String (Maximum 255 characters) Default: MVG Gatekeeper – RAD Ltd.
S/W Version	ASCII String (Maximum 255 characters)
H/W Version	ASCII String (Maximum 255 characters)
Location	ASCII String (Maximum 255 characters)
Contact	ASCII String (Maximum 255 characters)
GK Up Time	In YYYY-MM-DD HH:MM:SS format

General Tab

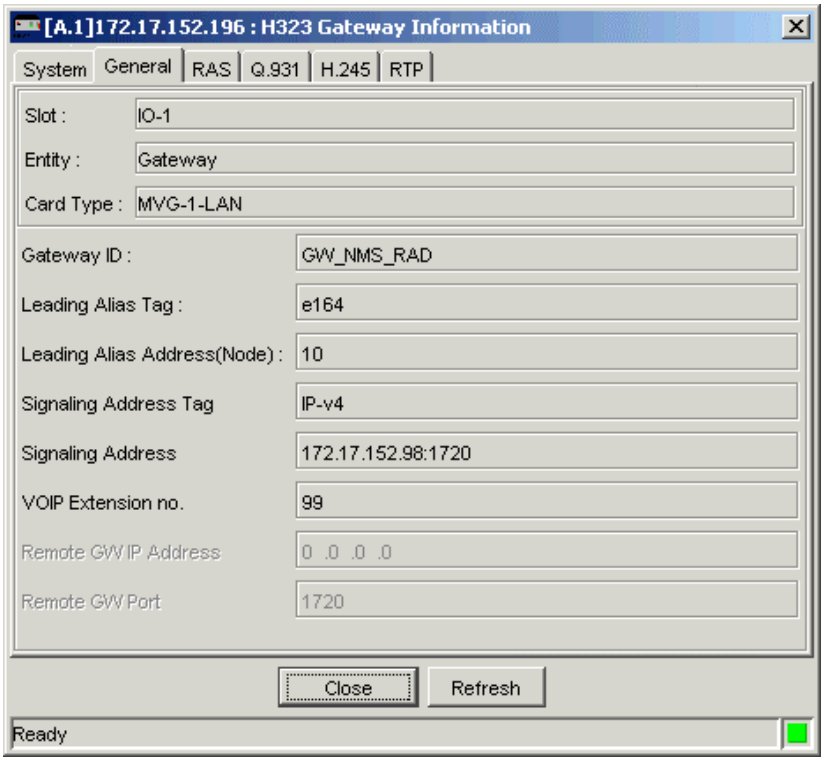


Figure 3-79. Gateway General Tab - MVG-1-LAN Card

Table 3-78. Gatekeeper Info General Parameters - MVG Card

Parameter	Possible Values / Remarks
Gateway ID	ASCII String (maximum of 19 characters)
Leading Alias Tag	**e164**
Leading Alias Address (Node)	ASCII String (maximum of 4 characters)
Signaling Address Tag	**IP-V4**
Signaling Address	IP Address and Port number

Parameter	Possible Values / Remarks
VOIP Extension No.	**00..99** Default: **99**
Remote GW IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
Remote GW IP Port	Default: **1720**

RAS Tab

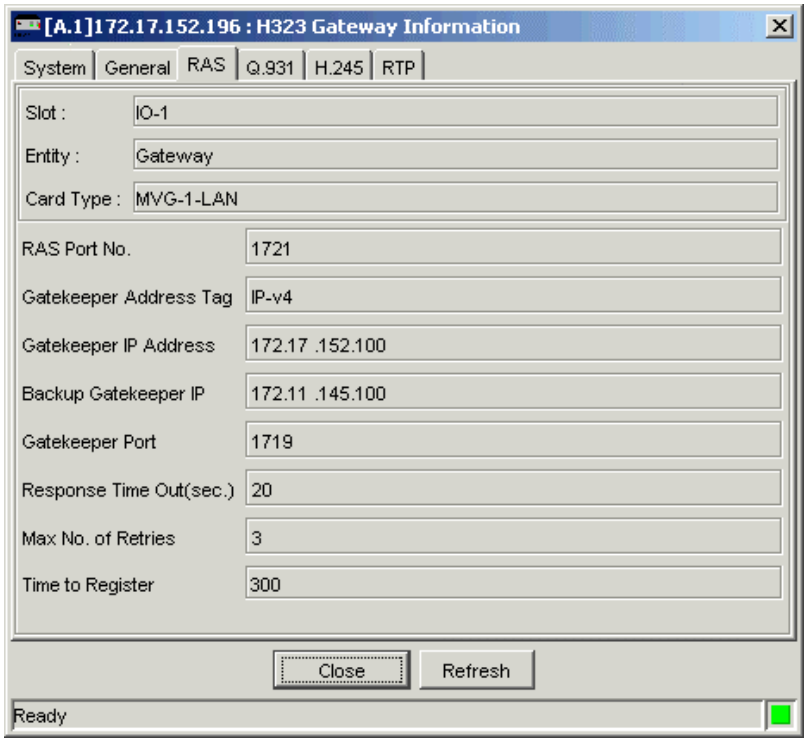


Figure 3-80 Gateway RAS Tab - MVG-1-LAN Card

Table 3-79. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values / Remarks
RAS Port No.	Default: **1721**
Gatekeeper Address Tag	**IP-V4**
Gatekeeper IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**
Backup Gatekeeper IP	**0.0.0.0.-255.255.255.255** Default**: 0.0.0.0**
Gatekeeper Port	Default: **1719**
Response Time Out (sec.)	**5..30** Default: **20**
Max No. of Retries	**1..200** Default: **3**
Time to Register	**0-Never, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720, 780, 840, 900** Default: **300**

Q.931 Tab

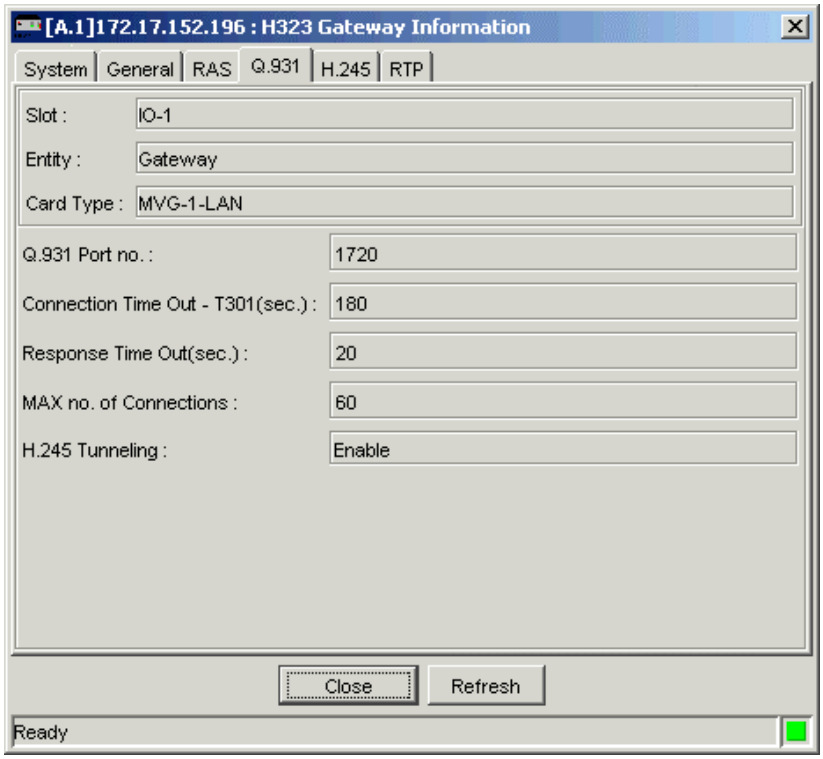


Figure 3-81. Gateway Q.931 Tab - MVG-1-LAN Card

Table 3-80. Gatekeeper Info Q.931 Parameters - MVG Card

Parameter	Possible Values / Remarks
Q.931 Port no.	Default: **1720**
Connection Time Out T301 (sec.)	**30..180** Default: **180**
Response Time Out (sec.)	**5..30** Default: **20**
Max No. of Connections	**1..60** Default: **60**
H.245 Tunneling	**Enable, Disable** Default: **Disable**

H.245 Tab

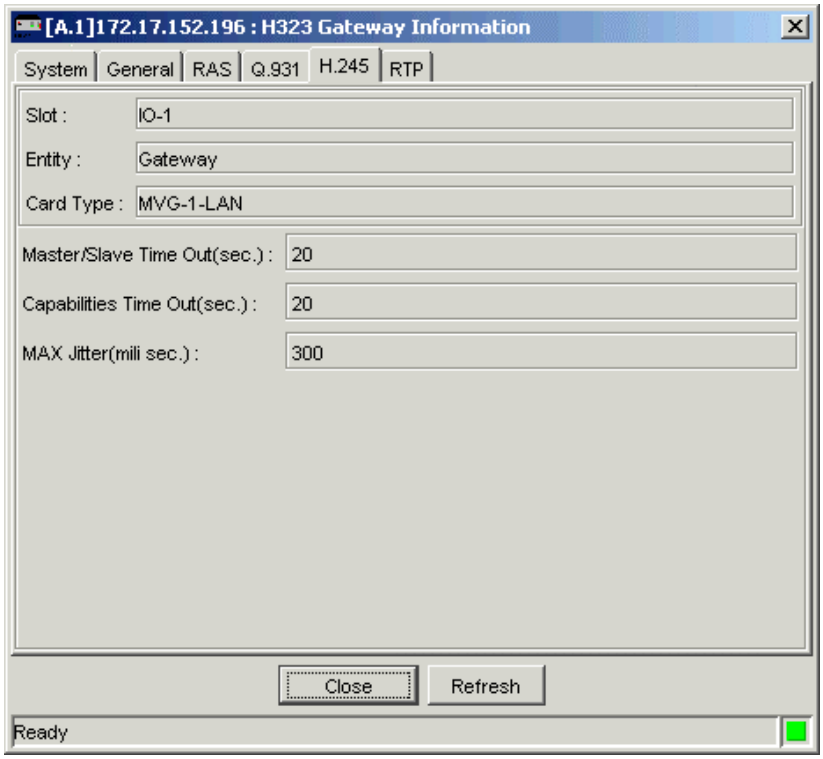


Figure 3-82. Gateway H.245 Tab - MVG-1-LAN Card

Table 3-81. Gatekeeper Info H.245 Parameters - MVG Card

Parameter	Possible Values / Remarks
Master/SlaveTime Out (sec.)	**1..20** Default: **20**
Capabilities Time Out (sec.	**1..180** Default: **20**
Max Jitter (millisec.)	**1..300** Default: **300**

RTP Tab

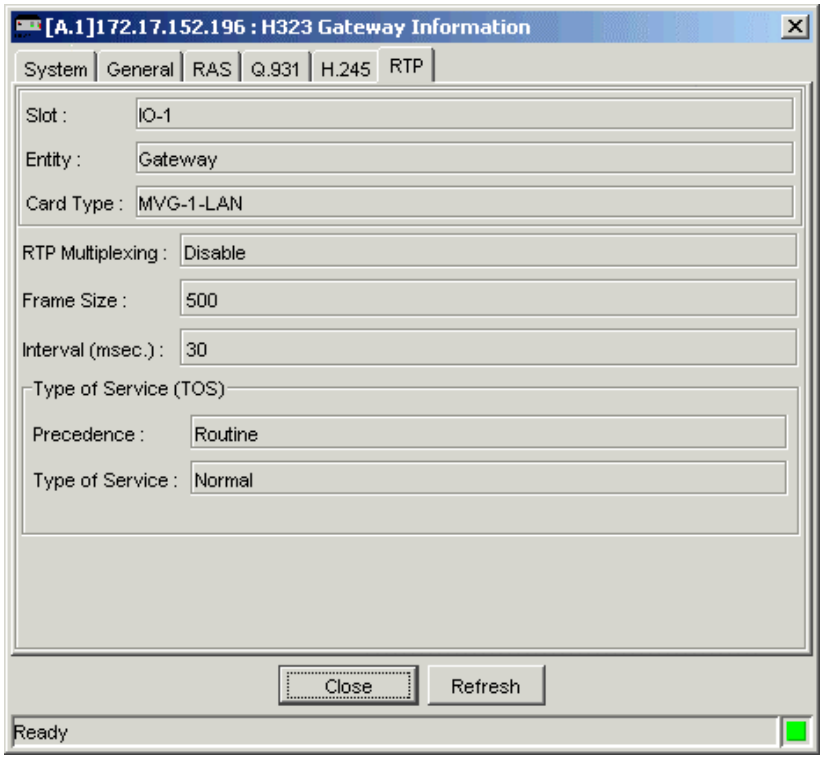


Figure 3-83. Gateway RTP Tab - MVG-1-LAN Card

Table 3-82. Gatekeeper Info RTP Parameters - MVG Card

Parameter	Possible Values / Remarks
RTP Multiplexing	**Disable, Type 1, Type 2** Default: **Disable**
Frame Size	**100..1472** Default: **500**
Interval (msec.)	**10..90** Default: **30**
Type of Service (TOS)	
Precedence	**Routine, Priority, Immediate, Flash, Flash Override, CRITIC/ECP, Inter Network CTRL, Network CTRL** Default: **Routine**
Type of Service	**Normal, High Reliability, High Throughput, High Throughput & High Reliability, Low Delay, Low Delay & High Reliability, Low Delay & High Throughput, Low Delay & High Throughput & High Reliability** Default: **Normal**

Viewing Timeslot Assignments

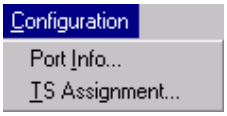


Figure 3-84. Configuration Menu

Using the TS Assignment command, you can display timeslot assignments for a specific port. TS Assignment is only available for TDM-ML type ports (external-1) of MTML cards.

➤ **To view timeslot assignments:**

1. In the Agent Card Layout View, click the required external-1 port.
2. Select **Configuration > TS Assignment**

   Or

   Click the **TS Assignment** button  .

[A.1]172.17.152.196 : Time Slots Table

Slot : IO-6 Port : External 1 Card Type : MTML/T1 (DSU)

TS Src	Slot	Port	Time Slot	Direction	TS Type
1	IO-7	External 1	NA	Both	Voice
2	IO-7	External 2	NA	Both	Voice
3	IO-7	External 3	NA	Both	Voice
4	IO-7	External 4	NA	Both	Voice
5	IO-7	External 5	NA	Both	Voice
6	IO-7	External 6	NA	Both	Voice
7	IO-8	External 1	NA	Both	Voice
8	IO-8	External 2	NA	Both	Voice
9	IO-8	External 3	NA	Both	Voice
10	IO-8	External 4	NA	Both	Voice
11	IO-8	External 5	NA	Both	Voice
12	IO-8	External 6	NA	Both	Voice
13	IO-9	External 1	NA	Both	Voice
14	IO-9	External 2	NA	Both	Voice
15	IO-9	External 3	NA	Both	Voice
16	IO-9	External 4	NA	Both	Voice
17	IO-9	External 5	NA	Both	Voice
18	IO-9	External 6	NA	Both	Voice
19	IO-12	External 1	NA	Both	Data
20	IO-12	External 2	NA	Both	Data
21	IO-12	External 3	NA	Both	Data
22	IO-12	External 4	NA	Both	Data
23	Split	NA	NA	Both	Data
24	None	None	NA	NA	NC

Replace... Remove Sequence... Expand Collapse Close

Figure 3-85. Timeslot Table

The Timeslot Table lists the timeslots in the selected port and the details of their connections. For a description of the Timeslot Table parameters, refer to the section on *Setting Timeslot Assignments*, page *3-47*.

Split Timeslot

In MTML card ports, the timeslots may be split into smaller parts so that different bits are connected to different slots and/or ports. If a timeslot is Split, you can expand the table to view the connections of that timeslot's bits.

➤ **To view the connections of a split timeslot's bits:**

1. Click an entry whose slot is Split and click **Expand**

   Or

   Double-click the TS Src or Slot of an entry whose slot is Split.

   The Timeslots Table displays eight additional rows (one for each bit) directly under the selected timeslot.

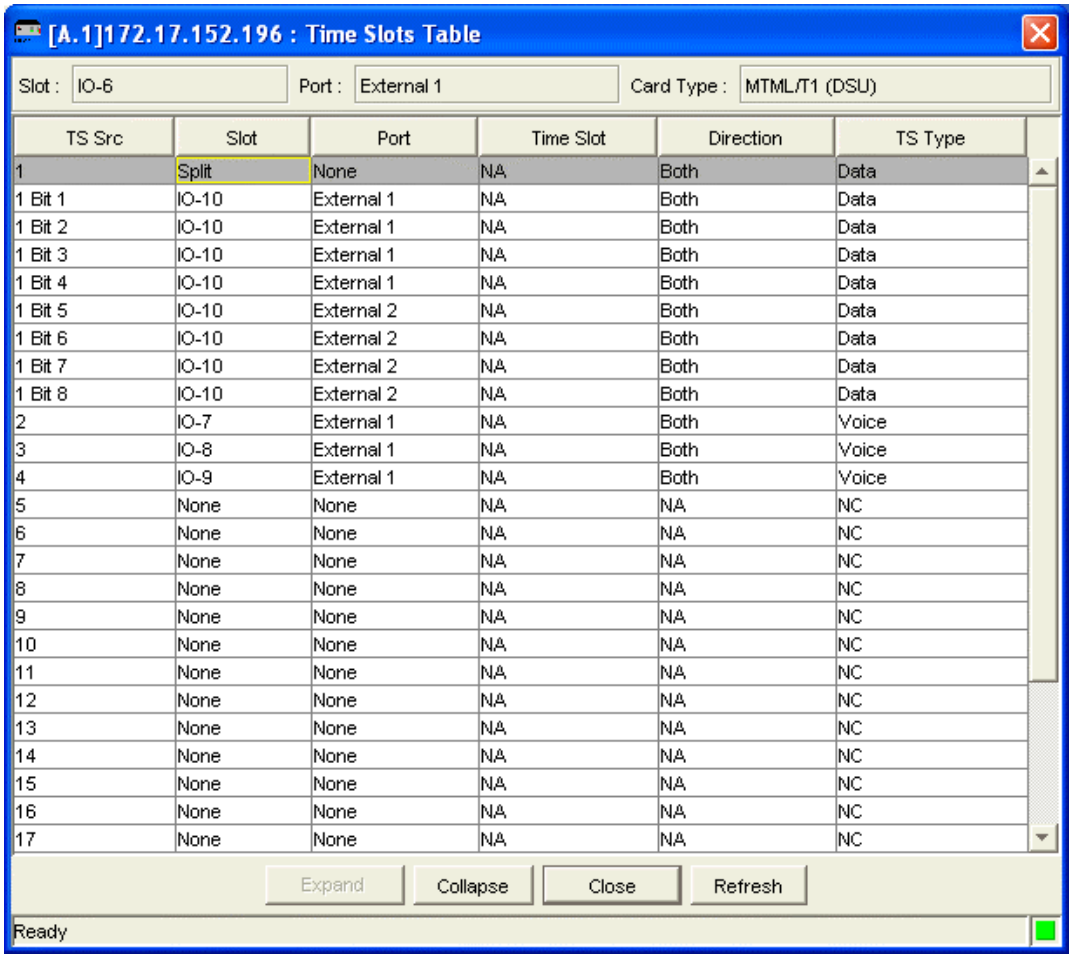


Figure 3-86. Expanded Timeslot Assignment Table

2. Click a *Bit* entry and click **Collapse** to return to the Timeslot Table's normal view

   Or

   Double-click any *Bit* entry.

Chapter 4

Configuring for Typical Applications

This chapter will describe a typical configuration of the Megaplex 2100H/2104H.

4.1 Background

The Megaplex 2100H/2104H enables integration of multiple, dedicated voice, ISDN, video, and LAN channels onto E1/T1 trunks. It splits the voice and data channels and redirects the traffic to separate trunks. The Megaplex 2100H/2104H is especially suitable for use as an economical, compact, remote distribution node. The incorporation of the ML-IP main link module enables TDM applications to be implemented over IP networks.

4.2 Configuration

Setting up the Megaplex 2100H/2104H

Each Megaplex 2100H/2104H unit will be configured with an MTML-1/T1 card to connect over the E1/T1 lines, and several I/O cards (MVG-1-LAN, HS-R, VC-6 (FXS), MVC-8) for receiving real-time voice/ISDN/data transmissions.

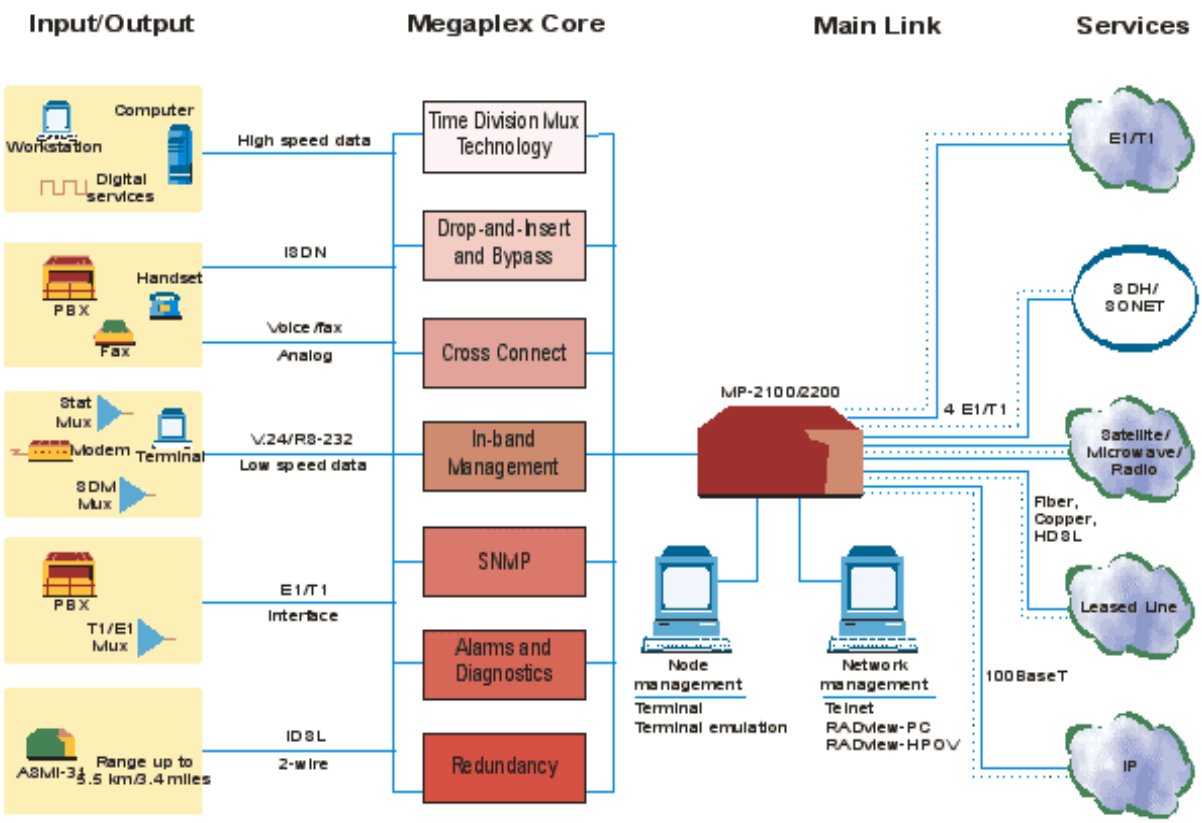


Figure 4-1. Megaplex 2100H/2104H System Diagram

Selecting the Cards

Add the necessary cards to the Megaplex 2100H/2104H configuration.

➤ **To add a new card:**

1. In Edit Mode, select an empty slot on the hub that is appropriate for the type of card. Slot types and matching cards are listed in *Table 4-1. Choosing Slot type and card*.
2. Select **Configuration > Add Card**

   Or

   Click the Add Card button on the toolbar.
3. Choose the appropriate card from the list provided.

Table 4-1. Choosing Slot type and card

Slot Type	Description	Card to Install
PS	Power supply cards	PS 180W
CL	Common logic cards	MCL-2 ETH
IO	IO cards	MTML-1/T1 MVG-1-LAN HS-R LS-6/N VC-6 (FXS) MVC-8/N MVC-8/T1-DSU-FRAMER MVC-8-SLAVE

Configuring the Cards

Each card must be configured appropriately for its function in the Megaplex 2100H/2104H.

➤ **To configure a card:**

1. In Edit Mode, select the card in the hub and select **Configuration > Zoom** to open the card view.
2. Select the desired port and select **Configuration > Port Info**

   Or

   Click the Port Info  toolbar button.

Configuring the MTML-1/T1 card

➤ **To configure the MTML-1/T1:**

1. Select the Primary External Port (External 1) and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-2. MTML External Port Configuration*.

Table 4-2. MTML External Port Configuration

Parameter	Possible Values	Notes
Connect	**No, Yes** Suggested Value: **Yes**	Indicates whether the port should be considered in any of the MP-2100H algorithms
TDM Bus	**Bus A, Bus B** Default: **Bus A**	The bus over which the MP-2100H transfers data from the TDM cards
Clock Mode	**Nodal Timing**	The clock operation mode of the interface
Line Code	**B8ZS, B7, TRANS** Default: **B8ZS**	The line code parameter of the interface
Line Type	**ESF,D4** Default: **ESF**	
Restore Time	**1,10** Default: **10**	The time required in seconds to restore normal service after the end of a loss of synchronization condition
FDL Type	**Response, Command** Default: **Response**	The side of the FDL that the selected port is located. This parameter is only applicable if Frame is set to ESF **Response**: indicates the user side **Command**: indicates the PTT side
Line Length	**0-133, 134-266, 267-399, 400-533, 534-655, FCC-68** Default: **0-133**	The line length. This parameter is applicable only for T1/DSU cards
Idle Code	**01..7F** **Default: 7F**	Hexadecimal code transmitted to fill idle (unused) timeslots in frames transmitted through the selected port
Inband Mng	**Off, FDL or TS0, Dedicated TS, Dedicated TS/PPP, Dedicated FR** Default: **Off**	Identifier of inband management over the link
Slot	**Local, IO-1..IO-12** Default: **Local**	Indicates whether the selected port's Tx multiframe is synchronized with the Rx multiframe of another port and its slot position. The slot must contain an MHML, MTML, or HS-4 card If the port is not connected to a TDM bus, this value is Local
Mediation	**Direct (Full), Fractional** Default: **Direct**	
Connect Type	**TDM Service, TDM User** Default: **TDM Service**	
Connect Mux	**Unknown, [Mux ID]** Default: **Unknown**	MP-2100H in the net which is connected to the selected port
Connect Slot	**Unknown, IO-1..IO-15** Default: **Unknown**	Slot in the connected MP-2100H that is connected to the selected port
Connect Port	**Unknown, External-1..External-12, Internal-1..Internal-28** Default: **Unknown**	Port in the connected MP-2100H that is connected to the selected port

Configuring the MVG-1-LAN card

The MVG-1-LAN card has three ports which must be configured: the LAN port, the Gateway port, and the Gatekeeper port.

➤ **To configure the MVG-1-LAN card's LAN port:**

1. Double click the LAN port

   Or

   Select the LAN port and select **Configuration > LAN Info…**

2. Configure the port as described in *Table 4-3. LAN Info Parameters - MVG Card*

Table 4-3. LAN Info Parameters - MVG Card

Parameter	Possible Values
LAN IP Address	**0.0.0.0 - 255.255.255.255** Default: **0.0.0.0**
LAN IP Mask	**0.0.0.0 - 255.255.255.0** Default: **255.255.255.0**
Default Router	**0.0.0.0 - 255.255.255.255** Default: **0.0.0.0**

➤ **To configure Gatekeeper information:**

1. Double click the GK port

   Or

   Select the GK port and select **Configuration > Gatekeeper Info…**

   The information appears under four tabs: **System, Zone, RAS,** and **Q.931**.

2. Configure the port as described in the following tables.

System Tab

Table 4-4. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values	Notes
Status	**Enabled, Disabled** Suggested Value: **Enabled**	Status must be **Enabled** in order to configure Zone, RAS and Q.931 information as well as Endpoints and Neighbors tables.

Zone Tab

Table 4-5. Gatekeeper Info Zone Parameters - MVG Card

Parameter	Possible Values	Notes
Zone Name	**20 characters (maximum) ASCII string**	
IRQ Interval (sec)	**0..600** Default: **60**	Information Request
Max Total B/W (Kbps)	Default: **1024**	
Call Accept Policy	**Accept All, Registered Only, Predefined Only** Default: **Accept All**	
Call Mode	**Direct, Routed** Default: **Direct**	If Call Accept Policy is set to **Registered Only** or **Predefined Only**, Call Mode must be **Routed**.
Default Distance	**0..99** Default: **1**	
Out of Zone Distance	**0..99** Default: **0**	

RAS Tab

Table 4-6. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values	Notes
RAS Port no.	Default: **1719**	
Registration Policy	**Accept All, Predefined Only** Default: **Accept All**	
Call Accept	**Accept All, Registered Only, Predefined Only** Default: **Accept All**	
Response Time Out (sec)	**5..30** Default: **20**	
MAX No. of Retries	**1..200** Default: **3**	

Q.931 Tab

Table 4-7. Gatekeeper Info Q.931 Parameters - MVG Card

Parameter	Possible Values	Notes
Q.931 Port no.	Default: **1722**	
Connection Time Out T303 (sec)	**30..180** Default: **180**	
Response Time Out T303 (sec)	**5..30** Default: **20**	
MAX No. of Connections	**1..60** Default: **60**	

➤ **To configure Endpoint information:**

1. Select the GK port and select **Configuration > Endpoints Table….**
2. To add new Endpoint information Click **<Add…>.**
3. Configure the Endpoint information as described in *Table 4-8. Endpoints Table Parameters - MVG Card*.

Note *Up to 100 Endpoints can be configured.*

Table 4-8. Endpoints Table Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
Phone Alias	**7** character (max) alphanumeric string (0..9,*,# only)	
Name	**7** character (max) ASCII string	
Endpoint Type	**Terminal (50), Gateway (80)** Default: **Terminal**	
IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**	
RAS Port	Default: **1721**	
Q.931 Port	Default: **1720**	
Allowed Distance	**0..99** Default**: 0**	
Set Online	**Upon Dynamic Registration, Always** Default: **Upon Dynamic Registration**	

➤ **To configure Neighbors information:**

1. Select the GK port and select **Configuration > Neighbor Table….**
2. To add new Neighbor information, Click **<Add…>.**
3. Configure the Neighbor information as described in *Table 4-9. Neighbors Table Parameters - MVG Card*

Note *Up to 50 Neighbors can be configured.*

Table 4-9. Neighbors Table Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**	
RAS Port	Default: **1719**	
Zone	2-digit ASCII string	
Address Tag		
Distance	**0..99** Default: **0**	
Description	20 character (max) ASCII string	

➤ **To configure H.323 Gateway information:**

1. Double click the GW port

   Or

   Select the GW port and select **Configuration > Gateway Info…**

   The information appears under six tabs: **System, General, RAS, Q.931, H.245, and RTP**.

2. Configure the GW port as described in the following tables.

System Tab

Table 4-10. Gatekeeper Info System Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
Status	**Disable, CVS IP, Standard** Default: **Disable**	

General Tab

Table 4-11. Gatekeeper Info General Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
Gateway ID	ASCII String (maximum of 19 characters)	
VOIP Extension No.	**00..99** Default: **99**	
Remote GW IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**	
Remote GW IP Port	Default: **1720**	

RAS Tab

Table 4-12. Gatekeeper Info RAS Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
RAS Port no.	Default: **1721**	
Gatekeeper IP Address	**0.0.0.0.-255.255.255.255** Default: **0.0.0.0**	
Backup Gatekeeper IP Address	**0.0.0.0.-255.255.255.255** Default**: 0.0.0.0**	
Gatekeeper Port	Default: **1719**	This is the RAS port of the Gatekeeper
Response Time Out (sec)	**5..30** Default: **20**	
MAX No. of Retries	**1..200** Default: **3**	
Time to Register	**0-Never, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720, 780, 840, 900** Default: **300**	

Q.931 Tab

Table 4-13. Gatekeeper Info Q.931 Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
Q.931 Port no.	Default: **1720**	
Connection Time Out T303 (sec)	**30..180** Default: **180**	
Response Time Out T303 (sec)	**5..30** Default: **20**	
MAX No. of Connections	**1..60** Default: **60**	
H.245 Tunneling	**Enable, Disable** Default: **Disable**	

H.245 Tab

Table 4-14. Gatekeeper Info H.245 Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
Master/Slave Time Out (sec)	**1..20** Default: **20**	
Capabilities Time Out (sec)	**1..180** Default: **20**	
Max. Jitter (millisec)	**1..300** Default: **300**	

RTP Tab

Table 4-15. Gatekeeper Info RTP Parameters - MVG Card

Parameter	Possible Values / Remarks	Notes
RTP Multiplexing	**Disable, Type 1, Type 2** Default: **Disable**	
Frame Size	**100..1472** Default: **500**	
Interval (msec)	**10..90** Default: **30**	
Type of Service (TOS)		
Precedence	**Routine, Priority, Immediate, Flash, Flash Override, CRITIC/ECP, Inter Network CTRL, Network CTRL** Default: **Routine**	
Type of Service	**Normal, High Reliability, High Throughput, High Throughput & High Reliability, Low Delay, Low Delay & High Reliability, Low Delay & High Throughput, Low Delay & High Throughput & High Reliability** Default: **Normal**	

Configuring the HS-R card

➤ **To configure the HS-R:**

1. Select the Primary External Port (External 1) and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-16. HS-R External Port Configuration*.

Table 4-16. HS-R External Port Configuration

Parameter	Possible Values	Notes
Connect	**Yes, No** Suggested Value: **Yes**	Indicates whether the port should be considered in any of the MP-2100H algorithms
Operation Mode	**Normal, Unidirectional Rx, Broadcast** Default: **Normal**	
Protocol	**Synch, Asynch** Suggested Value: **Synch**	Type of protocol used in the selected port
Rate	If Protocol = Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4** kbps. If Protocol = Sync: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 48.0, 56.0, 64.0** kbps Suggested Value: **56.0**	The baud rate of the selected port depends on the Protocol value.
Data Bits	**5,6,7,8** Suggested Value: **8**	
Parity	**Yes, No** Suggested Value: **No**	
Stop Bits	**1,2** Suggested Value: **1**	
CTS	**On, Rts** Suggested Value: **On**	
DCD & DCR	**Local, End to end** Suggested Value: **Local**	
Clock Mode	**DCE, Ext DCE** Suggested Value: **DCE**	Indicates if the card receives or supplies timing
Link to Slot	**IO-1..IO-12** Default: First ML Slot	Only slots containing ML cards will be displayed
Link to Port	**External 1, External 2, Internal 1** Suggested Value: **External 1**	According to the card specified in Link to Slot

Configuring the VC-6 (FXS) card

➤ **To configure the VC-6 (FXS)**

1. Select an External Port and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-17. VC External Port Configuration*

Table 4-17. VC External Port Configuration

Parameter	Value	Notes
Connect	**Yes, No** **Suggested Value: Yes**	
Interface	**2WIRE, 4WIRE** **Suggested Value: 2WIRE**	
Tx Level	**-1..8** Default: **0**	Transmit Level
Rx Level	**-17..2** Default: **0**	Receive Level
Coding Law	**Ulaw, Alaw** **Suggested Value: Ulaw**	
Signaling Method	**No-signaling, RobbedBitMultiFrame, RobbedBitFrame, Ch Associated E1** Suggested Value: **Robbed Bit Multi Frame**	
Out of Service	**Forced Idle**	State of the signaling bits when the link is in out-of-service (OOS) state
Operation Mode	**Normal, Unidirectional Rx, Broadcast** Suggested Value: **Normal**	
Signaling Profile	**1,2,3,4** Suggested Value: **1**	Values will vary based on type of VC-6 card
Link to Slot	**IO-1..IO-12**	Only slots with ML cards will be displayed
Link to Port	**External 1, External 2, Internal 1**	According to card specified in Link to Slot

Configuring the MVC-8/T1-DSU-FRAMER card

➤ **To configure the MVC-8/T1-DSU-FRAMER External Port:**

1. Select the External Port and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-18. MVC-8/T1-DSU-FRAMER External Port Configuration*.

Table 4-18. MVC-8/T1-DSU-FRAMER External Port Configuration

Parameter	Value	Notes
Connect	**Yes, No** Suggested Value: **Yes**	
Line Type	**ESF, D4 (SF)** Default: **ESF**	Line type of the interface
Restore Time	**TR-62411, Fast** Suggested Value: **TR-62411**	Time required to restore normal service after the end of a loss of synchronization condition
Clock Mode	**Internal Local, Loopback** Default: **Internal Local**	Clock operation mode of the interface
Signaling Mode	**Tie Trunk, Tie Invert, User Defined, CSS Transparent, No Signaling** Suggested Value: **User Defined**	
Code	**B8ZS**, **B7**, **TRANS** Suggested Value: **B8ZS**	Line code parameter of the interface
Line Length	**0-133, 134-266, 267-399, 400-533, 534-655, FCC68** Default: **0-133**	
Signaling	**End to End, Local Termination** Suggested Value: **Local Termination**	

➤ **To configure the MVC-8/T1-DSU-FRAMER Internal Port:**

1. Select an Internal Port and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-19. MVC-8/T1-DSU-FRAMER Internal Port Configuration*.

Table 4-19. MVC-8/T1-DSU-FRAMER Internal Port Configuration

Parameter	Value	Notes
Connect	**Yes, No** Suggested Value: **Yes**	
Jitter Buffer	**0, 30, 60, 90, 120, 150, 180, 210, 240, 270 and 300** Default: **60**	Maximum variant delay (in msec) of the Frame Relay network
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Suggested Value: **Voice Switching**	
OutPulsing	**Yes, No, NA** Suggested Value: **No**	
Auto Fax Mode	**Yes, No** Default: **Yes**	
Fax Rate	**2.4, 4.8, 9.6, 12, 14.4** Suggested Value**: 14.4**	
Sieze Ack	**Yes, No, NA** Default: **No**	
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**	
Delay Start	**100**..**5000** in intervals of 100 Default: **600**	
Channel ID	**1..256** Default: **1**	
Voice Coding	Default: **G723.1 6.3KBPS**	
Rx Gain	**-31..0** Default: **0**	
Out of Service	**Forced Idle, Forced Busy, Busy Idle, Idle Busy** Default: **Forced Idle**	State of the signaling bits when the link is in out-of-service (OOS) state.
DTMF Relay	**Enable** (Checked), **Disable** Default: **Enable**	
Disconnect on Silence	**0-Disable, 10..900** Default: **0**	
Dynamic Jitter	**Enable** (Checked)**, Disable** Default: **Disable**	

Configuring the MVC-8N card

➤ **To configure the MVC-8N:**

1. Select an external port and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-20. MVC-8N External Port Configuration*.

Table 4-20. MVC-8N External Port Configuration

Parameter	Value	Notes
Connect	**Yes, No** Suggested Value: **Yes**	
Interface Type	**FXS Loop**	Depends on Port type
No of Wires	**2 Wire**	Depends on Interface Type
Tx Gain	**-10..8** Default: **0**	
Rx Gain	**-17..2** Default: **0**	
Auto Fax Mode	**Yes, No** Default: **Yes**	
Out of Service	**Forced Idle, Forced Busy, Busy Idle, Idle Busy** Default: **Forced Idle**	State of the signaling bits when the link is in out-of-service (OOS) state.
Jitter Buffer	**0, 30, 60, 90, 120, 150, 180, 210, 240, 270** and **300** Default: **60**	Maximum variant delay (in msec) of the Frame Relay network
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Suggested Value: **Voice Switching**	
Out Pulsing	**Yes, No, NA** Suggested Value: **No**	
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**	
Delay Start	**100..5000** Default: **600**	
Port Connection	**Line, Trunk** Default: **Line**	
Voice Coding	Default: **G7231 6.3 KBPS**	
DTMF Relay	**Enable, Disable** Default: **Enable**	
Disconnect on Silence	**0-Disable, 10..900** Default: **0**	
Dynamic Jitter	**Enable, Disable** Default: **Disable**	

Configuring the MVC-8-SLAVE card

➤ **To configure the MVC-8-SLAVE:**

1. Select an internal port and select **Configuration > Port Info**.
2. Configure the port as described in *Table 4-21. MVC-8-SLAVE Internal Port Configuration*.

Table 4-21. MVC-8-SLAVE Internal Port Configuration

Parameter	Value	Notes
Connect	**Yes, No** Default: **No**	
Jitter Buffer	**0, 30, 60, 90, 120, 150, 180, 210, 240, 270** and **300** Default: **60**	Maximum variant delay (in msec) of the Frame Relay network
Extension Type	**Force Connect, Voice Switching, Transparent, Auto Dial, Permanent Dial, Auto Accept** Suggested Value: **Voice Switching**	
OutPulsing	**Yes, No, NA** Suggested Value: **No**	
Auto Fax Mode	**Yes, No** Default: **Yes**	
Fax Rate	**2.4, 4.8,7.2, 9.6, 12, 14.4** Default: **14.4**	
Sieze Ack	**Yes, No, NA** Suggested Value: **No**	
Signaling Protocol	**Delay Start, Immediate Start, Wink Start** Default: **Delay Start**	
Delay Start	**100..5000** Default: **600**	
Channel ID	**1..256** Default: **1**	
Voice Coding	Default: **G723.1 6.3 KBPS**	
Rx Gain	**-31..5** Default: **0**	
Out of Service	**Forced Idle, Forced Busy, Busy Idle, Idle Busy** Default: **Forced Idle**	State of the signaling bits when the link is in out-of-service (OOS) state.
DTMF Relay	**Enable, Disable** Default: **Enable**	
Disconnect on Silence	**0, 10..900** Default: **0**	
Dynamic Jitter	**Enable, Disable** Default: **Disable**	

Chapter 5

Diagnostics and Troubleshooting

5.1 Fault Management

The Megaplex 2100H/2104H interface provides several functions for monitoring alarm conditions at the System, Card, and Port level.

Managing System Level Alarms

In the Agent mode Megaplex Hybrid Level, the **Fault** menu contains options for:

- Displaying and clearing Megaplex Hybrid-related alarms
- Viewing a history log of alarms

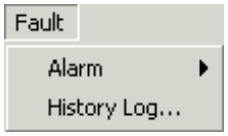


Figure 5-1. Fault Menu

Table 5-1. Fault Menu Options

Tasks – Fault	Dialog Box and Parameter Location	Path
Displaying Megaplex Hybrid alarms	Mux All Active Alarm List (*Figure 5-3*)	Fault ➥Alarms ➥Display ➥All…
Displaying System Level alarms	Mux Active Alarm List (*Figure 5-4*)	Fault ➥Alarms ➥Display ➥System Level
Setting alarm severity level	Alarms Severity dialog box (*Figure 5-5*)	Fault ➥Alarms ➥Configuration ➥ Severity
Defining alarm attributes	Alarm Attributes dialog box (*Figure 5-6*)	Fault ➥Alarms ➥Configuration ➥ Attributes…

Tasks – Fault	Dialog Box and Parameter Location	Path
Defining scope of alarm reports	Alarm Report dialog box (*Figure 5-7*)	Fault ➥Alarms ➥Configuration ➥ Report…
Diplaying the history log	All Buffer Alarms dialog box (*Figure 5-8*)	Fault ➥History Log ➥All…

Displaying Megaplex Hybrid Level Alarms

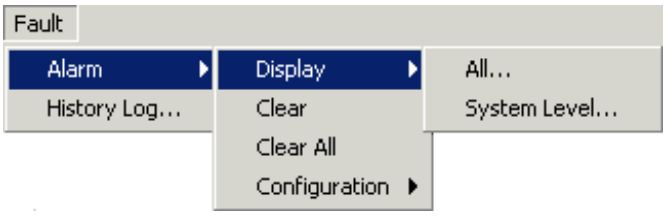


Figure 5-2. Alarms Submenu

You can display all active alarms or only system level alarms.

➤ **To display a list of all Megaplex Hybrid active alarms:**

- Select **Fault > Alarm > Display > All…**

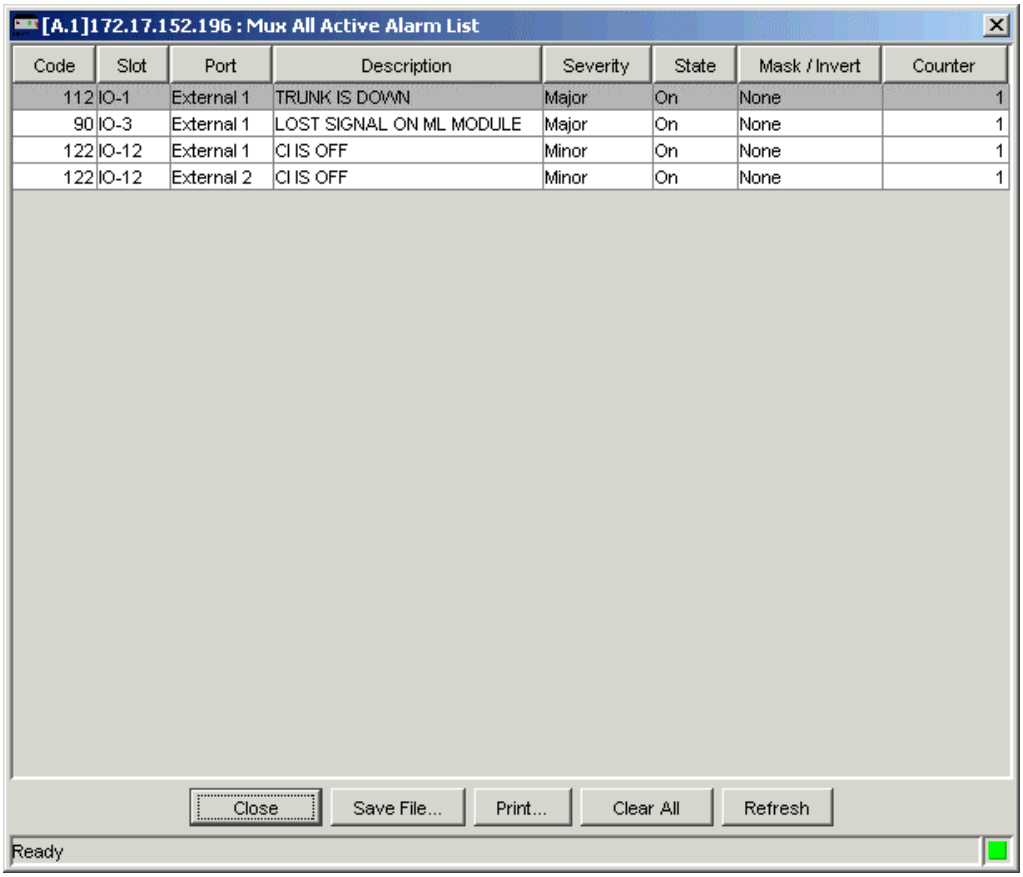


Figure 5-3. Mux All Active Alarm List

➤ **To display a list of system level alarms:**

- Select **Fault > Alarm > Display** > **System Level…**

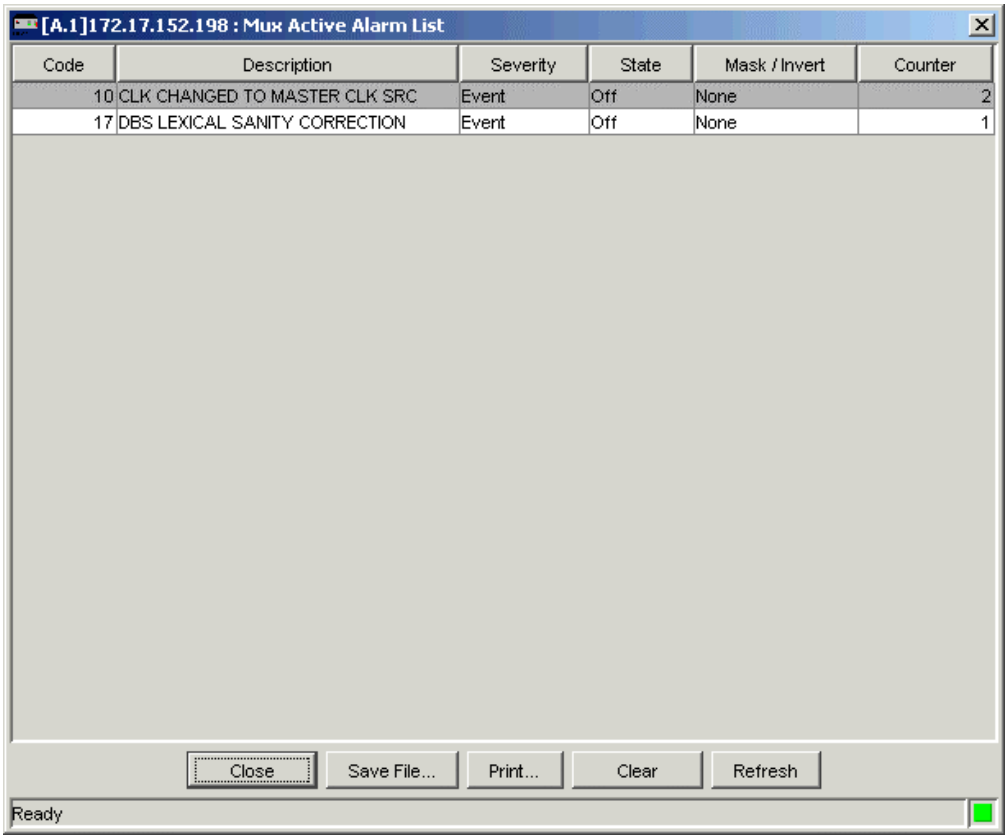


Figure 5-4. Mux Active Alarm List

The Mux Active Alarm List displays active alarms for the current Megaplex Hybrid. The list begins from either Megaplex Hybrid startup or from the last time the alarm list was cleared.

Clearing Megaplex Hybrid Alarms

The **Alarm>Clear** command clears active Megaplex Hybrid alarms from the Mux Active Alarms list:

➤ **To clear active Megaplex Hybrid alarms from the Mux Active Alarms List:**

- Select **Fault > Alarm > Clear**.

  No user confirmation is requested.

Clearing All Alarms

The **Alarms>Clear All** command clears all active Megaplex Hybrid, card and port alarms from the Mux Active Alarms list.

➤ **To clear all active alarms from the Mux Active Alarms List:**

- Select **Fault > Alarm > Clear All**.

  No user confirmation is requested.

Setting Alarm Severity

Using the Severity command, you can set the level of severity for the various types of alarms.

➤ **To set severity levels for alarms**

- Select **Fault > Alarm > Configuration > Severity**

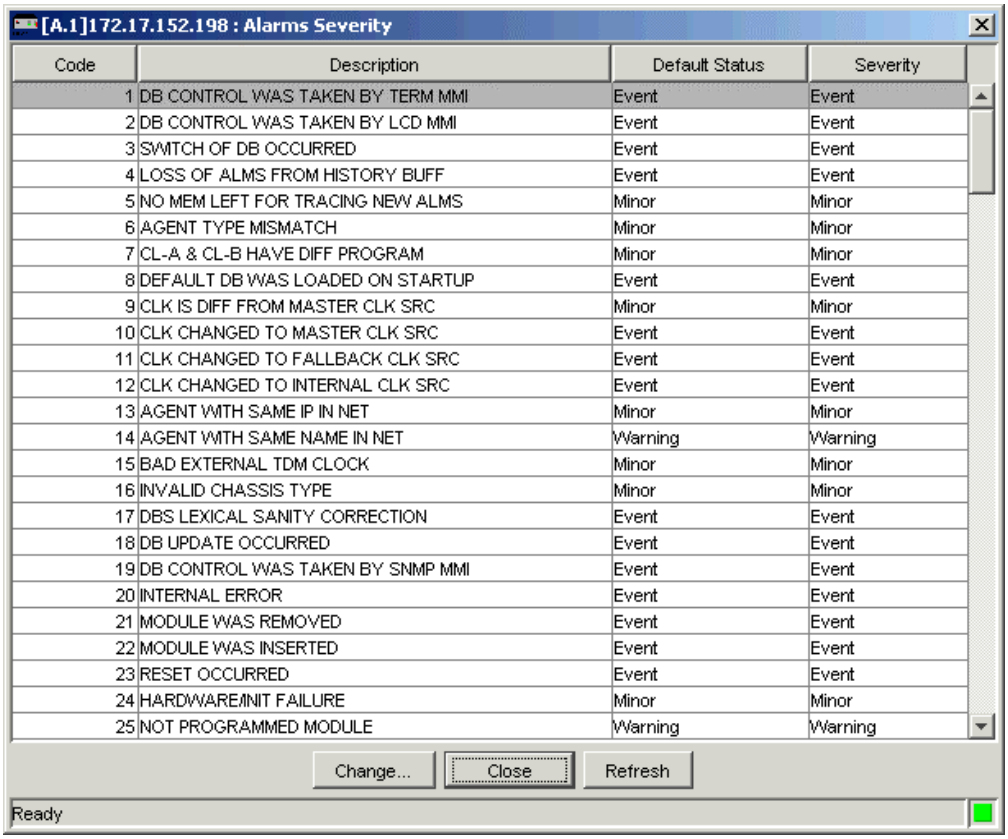


Figure 5-5. Alarms Severity Dialog Box

The Alarms Severity dialog box displays a list of alarms, their types, and a severity level. The dialog box contains the following parameters:

Table 5-2. Alarms Severity Parameters

Parameter	Possible Values / Remarks
Code	Identifier of the alarm
Description	Brief description of the alarm
Default Status	Type of alarm **Event**, **Minor, Major**
Severity	Indication of the effect level of the alarm **Event**, **Warning**, **Minor**, **Major, Critical**
[Change]	Modify the information in the selected row

Note *If Default Status is Event but Severity is not Event, a filter is required to obtain the required severity.*

Setting Alarm Attributes

Using the Attributes command, you can set a period of time for alarm filters validity and the attributes for the selected Megaplex Hybrid alarms. The defined attributes pertain to specific alarm codes, slots and ports.

➤ **To view alarm attributes:**

- Select **Fault > Alarms > Configuration > Attributes…**

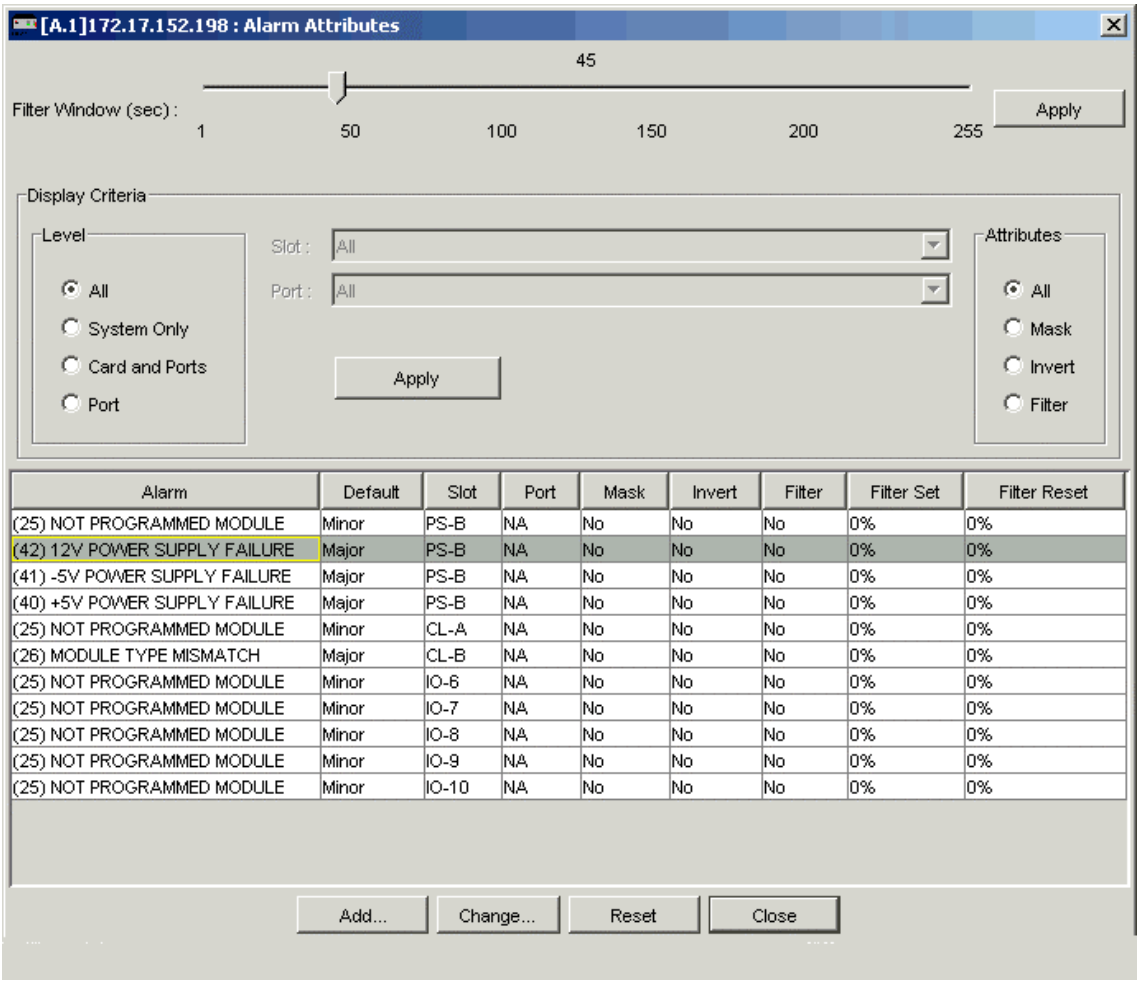


Figure 5-6. Alarm Attributes Dialog Box

In the Alarm Attributes dialog box, you can set the filter time period (window) and view a list of alarm attributes for the selected Megaplex Hybrid.

Table 5-3. Alarms Attributes Parameters

Parameter	Possible Values / Remarks
Filter Window (at top of dialog box)	Time period in which the filter is valid. To set the time period, drag the slider. **1..255 seconds** Default: **1**
Display Criteria	
Level	Filter the alarms for a particular level or for all levels
Attributes	Filter the alarms for specific values (only if the alarm is set to **Yes** or **Yes and Save** for that value)
*Alarm	Identifier of the alarm that retains the attributes in this list and a brief description of the alarm * indicates that you can sort the order of the alarms by Code, Slot, or Port. Double-click the column
Default	Default state of this alarm **event, minor, major**
*Slot	Slot in which the card/port alarm attributes are valid. The attributes can be valid in all slots in the selected Megaplex Hybrid or in a specific slot, depending on the Megaplex Hybrid's configuration. Attributes that are set for a specific slot override an all-slots alarm configuration in the specific slot only. The possible values are **NA, All, PS-A, PS-B, CL-A, CL-B, IO-1..IO-12.** For an Agent Level alarm, the only possible value is NA. * indicates that you can sort the order of the alarms by Slot, Port or Code. Double-click the column
Port	Port in which the alarm attributes are valid. The attributes can be valid in all ports in the selected slot or in a specific port, depending on the Megaplex Hybrid's configuration. Attributes that are set for a specific port override an all-ports alarm configuration in the specific port only. The possible values are **NA, All, external-1..external-12**, **internal-1..internal-12**. For an Agent Level or Card Level alarm, the only possible value is NA.
Mask	A masked alarm: Does not affect the operational status of the selected Megaplex Hybrid - Is not logged in the alarm buffer - Does not generate a trap - Does not cause a LED on the Megaplex Hybrid panel to turn on - Appears in the Active Alarm List - Cannot be cleared during a Clear or Clear All operation - May be saved. If it is not saved, the mask will be lost if the card is removed, reset, or if the Megaplex Hybrid is turned off. - The possible values are **No and Save, Yes,** and **Yes and Save**. Default: **No and Save**

Table 5-4. Alarms Attributes Parameters (cont.)

Parameter	Possible Values / Remarks
Invert	Alarm that retains an inverted status. This is useful when there is a problem condition that will exist for a long time. You don't want to see the alarm now but you want to know when it was fixed. The Invert status hides the alarm and triggers it when the problem is fixed. The possible values are **Yes** and **No**. Default: **No** Only active state alarms with a severity level of warning, major, minor or critical can be inverted. An inverted alarm cannot be masked by the Mask function. An inverted alarm cannot be cleared by an Alarms>Clear or Alarms>Clear All command. An inverted alarm cannot be saved, so the inversion will be lost if the Megaplex Hybrid is turned off. However, the inversion is retained after the card is removed.
Filter	A filter helps prevent frequent changes to a state alarm (which results in frequent reports). The filter also prevents frequent reports for the same event. The filter functions in conjunction with the Filter Set and the Filter Reset parameters (see below). The possible values are **Yes** and **No**. Default: **No**
Filter Set	Filter set limit. The filtered alarm is active if: - A state alarm is in the ON state for more than the specified percentage of the time defined by the Filter Window. The possible values are **0%** to **100%**. - An event occurs more than the specified number of times during the time defined by the Filter Window. The possible values are **0** to **255** times. ***Note:*** *The Filter Set limits must be greater than the Filter Reset limits. If a state alarm or event occurs between the Set and Reset limits, the alarm's status remains unchanged.*
Filter Reset	Filter reset limit. The filtered alarm is not active if: - A state alarm is in the ON state for less than the specified percentage of the time defined by the Filter Window. The possible values are **0%** to **100%**. - An event occurs less than the specified number of times during the time defined by the Filter Window. The possible values are **0** to **255** times.
[Add…]	Click **Add…** to open Add Alarm Attributes dialog box. Add a new set of alarm attributes and click <**Set**>.
[Change…]	Select an entry in the table and click **Change…** to open Change Alarm Attributes dialog box. Change alarm attributes and click <**Set**>.
[Reset]	Select an entry in the table and click **Reset** to can reset the attributes of an alarm type to their default values. The Reset operation removes any filters, sets Invert to **No**, and sets Mask to **No and Save**. If the alarm is not active, it will be removed from the Alarm Attributes table.

Filtering Alarm Attributes

If the Alarm Attributes list contains at least two entries, you can display entries according to alarm level type.

➤ **To filter the alarm attributes:**

1. In the Level group of the **Alarm Attributes dialog box**, select the alarm level type that you want to display. The available options are: **All**, **System only**, **Card and ports,** and **Port**.
2. If the alarm level type is **Card and ports** or **Port**, select a slot. The available options are **PS-A**, **PS-B**, **CL-A**, **CL-B**, **IO-1..IO-12,** and **All**.
3. If the alarm level type is **Port**, select a port. The available options are **external-1..external-12**, **internal-1..internal-12,** and **All**.
4. Click <**Apply**>. The alarm types that match the selected level appear in the Alarm Attributes table.

➤ **To display attributes of all alarms in the selected level in the Alarm Attributes table:**

- In the Attributes group, select **All**. Click <**Apply**>.

➤ **To display attributes of masked alarms (Mask = *Yes* or *Yes and Save*) within the selected level in the Alarm Attributes table:**

1. In the Attributes group, select **Mask**.

   If the selected level is **All**, all masked alarms appear in the Alarms Attributes table.

   If the selected level is **System**, only masked alarms whose Slot and Port are **NA** appear in the Alarms Attributes table.

   If the selected level is **Card and ports**, only masked alarms whose slot matches the Level group's Slot parameter appear in the Alarms Attributes table.

   If the selected level is **Ports**, only masked alarms whose slot matches the Level group's Slot and Port parameters appear in the Alarms Attributes table.
2. Click <**Apply**>.

➤ **To display attributes of inverted alarms (Invert = *Yes*) within the selected level in the Alarm Attributes table:**

1. In the Attributes group, select **Invert**.

   If the selected level is **All**, all inverted alarms appear in the Alarms Attributes table.

   If the selected level is **System**, only inverted alarms whose Slot and Port are **NA** appear in the Alarms Attributes table.

   If the selected level is **Card and ports**, only inverted alarms whose slot matches the Level group's Slot parameter appear in the Alarms Attributes table.

   If the selected level is **Ports**, only inverted alarms whose slot matches the Level group's Slot and Port parameters appear in the Alarms Attributes table.

2. Click <**Apply**>.

➤ **To display attributes of filtered alarms (Filter = *Yes*) within the selected level in the Alarm Attributes table:**

1. In the Attributes group, select **Filter**.

   If the selected level is **All**, all filtered alarms appear in the Alarms Attributes table.

   If the selected level is **System**, only filtered alarms whose Slot and Port are **NA** appear in the Alarms Attributes table.

   If the selected level is **Card and ports**, only filtered alarms whose slot matches the Level group's Slot parameter appear in the Alarms Attributes table.

   If the selected level is **Ports**, only filtered alarms whose slot matches the Level group's Slot and Port parameters appear in the Alarms Attributes table.

2. Click <**Apply**>.

Defining the Scope of Alarm Reports

Using the Reports command, you can define the scope, type, and severity of alarm reports that you will receive at the network management station.

➤ **To define an alarm report:**

1. Select Fault > Alarm > Configuration > Report…
2. Set the desired severity level for each report: **Event**, **Warning**, **Minor**, **Major**, or **Critical**.
3. Click <**Set**>.

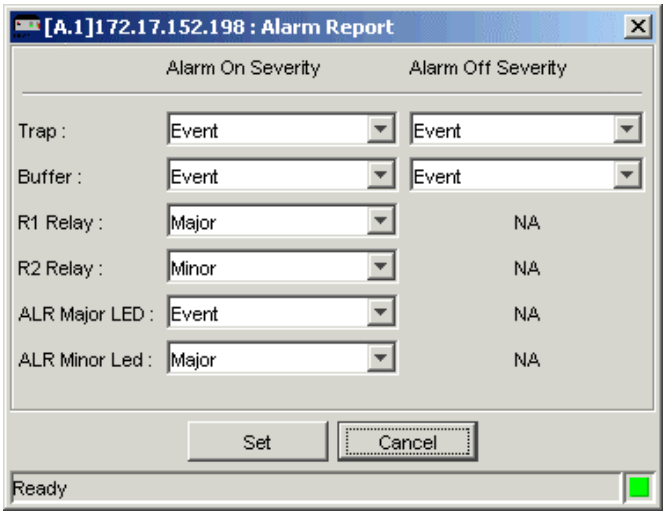


Figure 5-7. Alarm Report Dialog Box

Table 5-5. Alarm Report Parameters

Parameter	Possible Values / Remarks
Trap	Define whether you want to receive traps for all alarms or for only those alarms of at least a certain severity. **Alarm On Severity** - Minimum level of severity required for sending a trap to the network management station. Trap severity must be equal or higher than buffer severity. **Alarm Off Severity** - Maximum level of severity allowed for a trap not to be sent to the network management station.
Buffer	Define whether you want the alarm buffer to contain all alarms (including traps) or only those alarms of at least a certain severity. **Alarm On Severity** - Minimum level of severity required for sending an alarm to the alarm buffer. **Alarm Off Severity** - Maximum level of severity allowed for an alarm not to be sent to the alarm buffer. A masked alarm does not appear in the buffer and no traps are sent for it, even if its severity matches the Alarm On Severity specified here.
R1 Relay	Define whether you want to receive the beep sound of the R1 Relay contact for all alarms or for only those alarms of at least a certain severity. **Alarm On Severity** - Minimum level of severity required for sending a beep sound to the network management station.
R2 Relay	Define whether you want to receive the beep sound of the R2 Relay contact for all alarms or for only those alarms of at least a certain severity. **Alarm On Severity** - Minimum level of severity required for sending a beep sound to the network management station.
ALR Minor LED	Define the level of severity at which the CL-1's ALR LED turns on. Set this severity at a higher level than the ALR LED Blink severity (see below).
ALR Major LED	Define the level of severity at which the CL-1's ALR LED blinks. Set this severity at a lower level than the ALR LED On severity (see above).

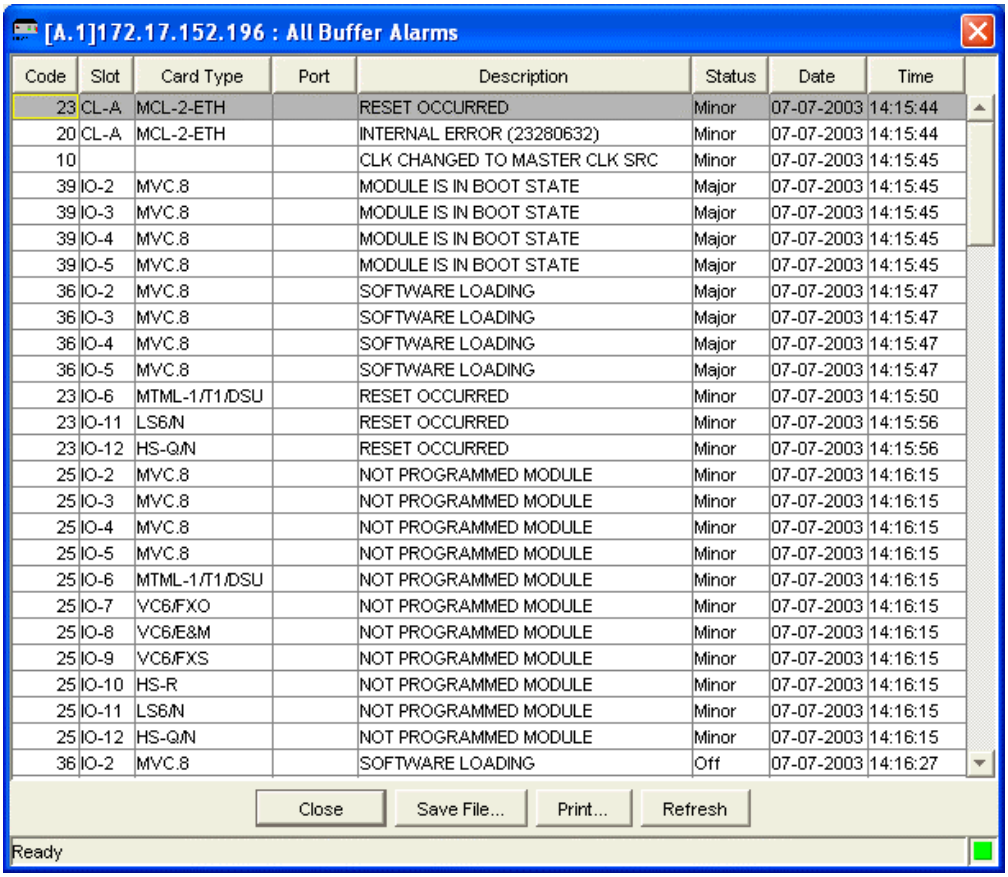
Displaying the History Log

The **History Log** command displays the entire contents of the Megaplex Hybrid's alarm buffer.

➤ **To display the contents of the Megaplex Hybrid's alarm buffer:**

- Select **Fault > History Log**.

  The All Buffer Alarms dialog box displays all recorded Megaplex Hybrid, card and port alarms since the last time the log was cleared. If the list is long, you can click the scroll bar or scroll arrows to display more entries.



Code	Slot	Card Type	Port	Description	Status	Date	Time
23	CL-A	MCL-2-ETH		RESET OCCURRED	Minor	07-07-2003	14:15:44
20	CL-A	MCL-2-ETH		INTERNAL ERROR (23280632)	Minor	07-07-2003	14:15:44
10				CLK CHANGED TO MASTER CLK SRC	Minor	07-07-2003	14:15:45
39	IO-2	MVC.8		MODULE IS IN BOOT STATE	Major	07-07-2003	14:15:45
39	IO-3	MVC.8		MODULE IS IN BOOT STATE	Major	07-07-2003	14:15:45
39	IO-4	MVC.8		MODULE IS IN BOOT STATE	Major	07-07-2003	14:15:45
39	IO-5	MVC.8		MODULE IS IN BOOT STATE	Major	07-07-2003	14:15:45
36	IO-2	MVC.8		SOFTWARE LOADING	Major	07-07-2003	14:15:47
36	IO-3	MVC.8		SOFTWARE LOADING	Major	07-07-2003	14:15:47
36	IO-4	MVC.8		SOFTWARE LOADING	Major	07-07-2003	14:15:47
36	IO-5	MVC.8		SOFTWARE LOADING	Major	07-07-2003	14:15:47
23	IO-6	MTML-1/T1/DSU		RESET OCCURRED	Minor	07-07-2003	14:15:50
23	IO-11	LS6/N		RESET OCCURRED	Minor	07-07-2003	14:15:56
23	IO-12	HS-Q/N		RESET OCCURRED	Minor	07-07-2003	14:15:56
25	IO-2	MVC.8		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-3	MVC.8		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-4	MVC.8		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-5	MVC.8		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-6	MTML-1/T1/DSU		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-7	VC6/FXO		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-8	VC6/E&M		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-9	VC6/FXS		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-10	HS-R		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-11	LS6/N		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
25	IO-12	HS-Q/N		NOT PROGRAMMED MODULE	Minor	07-07-2003	14:16:15
36	IO-2	MVC.8		SOFTWARE LOADING	Off	07-07-2003	14:16:27

Figure 5-8. All Buffer Alarms Dialog Box

Table 5-6. All Buffer Alarms Parameters

Parameter	Possible Values / Remarks
Code	Code number of the alarm
Slot	Slot number of the card in which the alarm originated. This parameter is not applicable for Megaplex Hybrid alarms
Card Type	Type of card in which the alarm originated. This parameter is not applicable for Megaplex Hybrid alarms
Port	Port number in which the alarm originated. This parameter is applicable only for port alarms
Description	Description of the alarm
[Save File..]	Click **Save File…** to save all buffer alarms in a file. In the Save dialog box, enter path and filename, then choose a file type and click <**OK**>. You can save the file as an Adobe Acrobat document (.pdf), an HTML file (*.htm), or a text file (.hst). ***Note**: To view an Adobe Acrobat file, you must have the Adobe Acrobat software installed*

Managing Card Level Alarms

In the Card Level, you can display and clear card and port-related alarms.

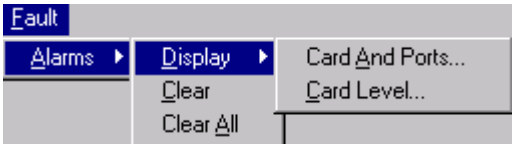


Figure 5-9. Card Alarms Submenu

Tasks - Fault	Dialog Box and Parameter Location	Path
Displaying Alarms (Cards and Ports)	Card Active Alarm List (*Figure 5-10*)	Fault ➥Display ➥ Card And Ports…
Displaying Alarms (Card Level)	Card Active Alarm List (*Figure 5-10*)	Fault ➥Display ➥Card Level…
Clearing active alarms	See *Clearing Card Alarms, page 5-14*	Fault ➥Clear
Clearing all alarms from alarm list	See *Clearing All Alarms, page 5-14*	Fault ➥Clear All

Displaying Alarms

You can display all active alarms for both Cards and Ports or only the Card Level.

➤ **To display a list of all active alarms for cards and ports:**

- Select **Fault > Alarms > Display > Card And Ports…**

  Or

  Click the **Alarms>Display** button 

➤ **To display a list of all active alarms for card level only:**

- Select **Fault > Alarms > Display > Card Level**

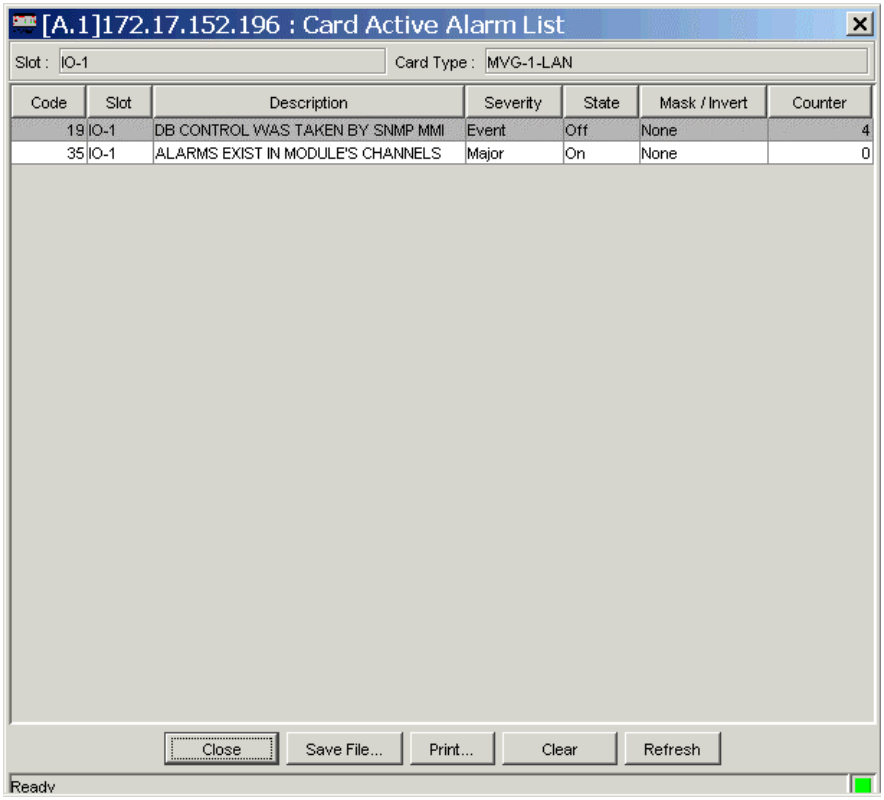


Figure 5-10. Card Active Alarm List

The Card (& Ports) Active Alarm List displays active alarms for the selected card. The list begins from either Megaplex Hybrid startup or from the last time the alarm list was cleared.

Table 5-7. Card (& Ports) Active Alarm List Parameters

Parameter	Possible Values
Code	Code number of the alarm
Slot	Slot on which alarm is based
Description	Brief description of the alarm
Severity	Severity of alarm
State	Type of alarm **Off** - No alarms or events in port **Event** - At least one alarm event (including state on, off events) since the last Alarms>Clear operation **Major** - At least one active major alarm since the last Alarms>Clear operation **Minor** - At least one active minor alarm since the last Alarms>Clear operation
Mask/Invert	**Mask, Invert, None**
Counter	Number of times that this alarm occurred since either Megaplex Hybrid startup or the last time the alarm list was cleared
[Save File…]	Saves alarms list in a file. In the Save dialog box, enter path and filename, then choose a file type and click <**OK**>. You can save the file as an Adobe Acrobat document (.pdf), an HTML file (*.htm) or a text file (.alr). ***Note**: To view an Adobe Acrobat file, you must have the Adobe Acrobat software installed.*
[Clear]	Clears all active alarms. Confirmation is not required.

Clearing Card Alarms

The **Alarms>Clear** command clears active card alarms from the Card Active Alarms list.

➤ **To clear active card alarms from the Card & Ports Active Alarms List:**

- Select **Fault > Alarms > Clear**.

  No user confirmation is requested.

Clearing All Alarms

The **Alarms>Clear All** command clears all card and port alarms from the Card & Ports Active Alarms list.

➤ **To clear all alarms from the Card & Ports Active Alarms List:**

- Select **Fault > Alarms > Clear All**.

  No user confirmation is requested.

Managing Port Level Alarms

In the Port Level, you can display and clear port-related alarms.

Figure 5-11. Fault Menu

Tasks - Fault	Dialog Box and Parameter Location	Path
Displaying port alarms	Port Active Alarm List (*Figure 5-12*)	Fault ➥Display…
Clearing Port alarms	See *Clearing Port Alarms, page 5-16*	Fault ➥Clear

Displaying Port Alarms

➤ **To display a list of all active port alarms:**

1. In the Card View, click a port.
2. Select **Fault > Alarms > Display**

   Or

   Click the Alarms>Display button  .

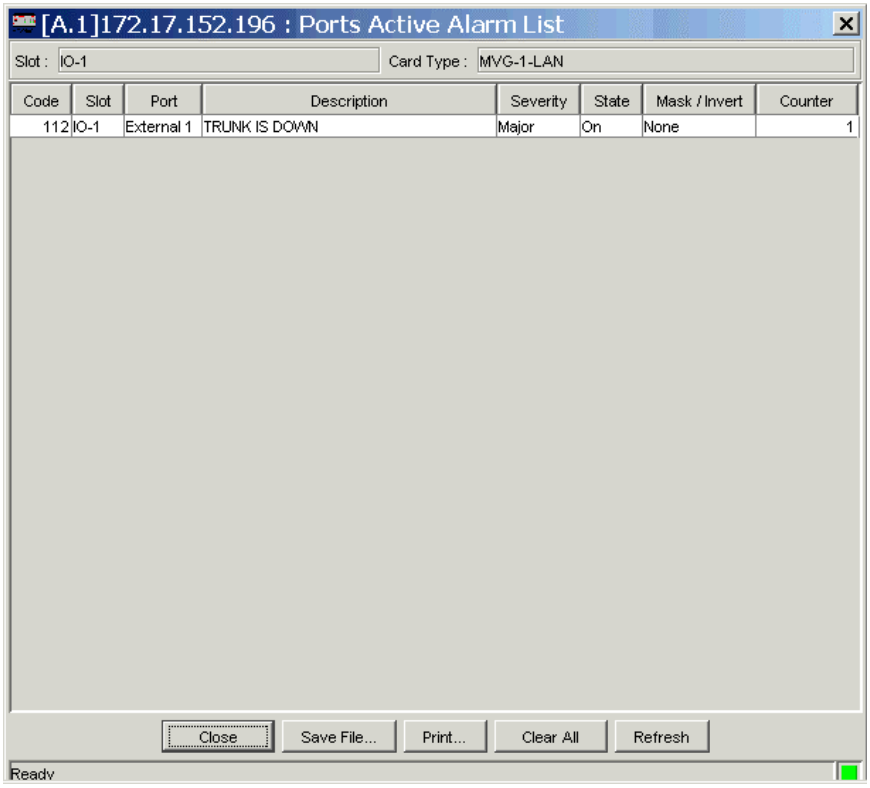


Figure 5-12. Port Active Alarm List Dialog Box

The Port Active Alarm List displays active alarms for the selected port. The list begins from either Megaplex Hybrid startup or from the last time the alarm list was cleared.

Table 5-8. Port Active Alarm List Parameters

Parameter	Possible Values
Code	Code number of the alarm
Port	Port of the alarm
Description	Brief description of the alarm
Severity	Alarm severity
State	Type of alarm **Off** - No alarms or events in port. **Event** - At least one alarm event (including state on, off events) since the last Alarms>Clear operation. **Major** - At least one active major alarm since the last Alarms>Clear operation. **Minor** - At least one active minor alarm since the last Alarms>Clear operation.
Mask/Invert	
Counter	Number of times that this alarm occurred since either Megaplex Hybrid startup or the last time the alarm list was cleared
[Save File…]	Saves alarms list in a file. In the Save dialog box, enter path and filename, then choose a file type and click <**OK**>. You can save the file as an Adobe Acrobat document (.pdf), an HTML file (*.htm) or a text file (.alr). ***Note**: To view an Adobe Acrobat file, you must have the Adobe Acrobat software installed.*
[Clear]	Clears all active alarms. Confirmation is not required.

Clearing Port Alarms

The **Alarms>Clear** command clears active port alarms from the **Port Active Alarms** list:

➤ **To clear active port alarms from the Port Active Alarms List:**

- Select **Fault > Alarms > Clear**.

  No user confirmation is requested.

5.2 Performance Monitoring

The Megaplex Hybrid interface provides several functions for managing diagnostics and displaying system statistics.

Table 5-9. Port Level Management Options

Tasks - Diagnostics	Dialog Box and Parameter Location	Path
Running diagnostic tests	Testing dialog box (*Figure 5-14*)	Diagnostics ➥Test…
Setting polling interval	Polling Interval dialog box (*Figure 5-17*)	Statistics ➥Poll Interval…
Viewing FDL Rx/Tx messages	Port FDL Message dialog box (*Figure 5-18*)	Statistics ➥FDL Message ➥FDL Rx Messsage Statistics ➥FDL Message ➥FDL Tx Messsage
Displaying current data statistics in table or graph	See *Displaying Current Data, page 5-22*	Statistics ➥Current Data ➥Table… Statistics ➥Current Data ➥Graph…
Displaying intervals data statistics in table or graph	See *Displaying Intervals Data*, page *5-24*	Statistics ➥Intervals Data ➥Table… Statistics ➥Intervals Data ➥Graph…

Running Diagnostic Tests

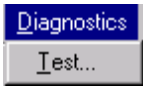


Figure 5-13. Diagnostics Menu

Note *For MTML cards, the Diagnostics Testing function is enabled if the selected port is connected (in Port Information dialog box,* ***Connect = Yes****).*
For other TDM cards, the Diagnostics Testing function is enabled when the card is linked to an MTML card using Time Slot Assignment, and the selected port is connected (in Port Information dialog box, ***Connect = Yes****).*

➤ **To enter the diagnostic test function:**

1. In the Agent Card Layout View, click a port.
2. Select **Diagnostics > Test…**

   Or

   Click the **Test** button  .

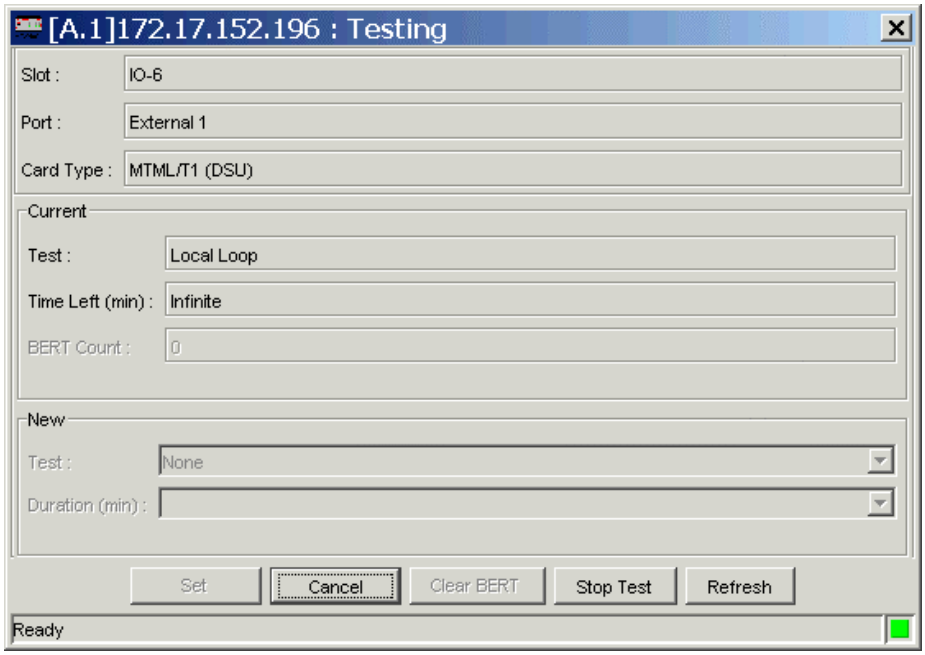


Figure 5-14. Testing Dialog Box

The Testing dialog box contains card and port identification at the top and two main functional sections, **Current** and **New**.

Table 5-10. Testing Parameters

Parameter	Possible Values
Slot	Slot number of the selected card **IO-1..IO-12**. MP-2104H: **IO-1..IO-5**.
Port	Selected port **external-1..external-12**, or **internal-1..internal-12**.
Card Type	Type of card assigned to the selected slot
Current	The **Current** section shows the current testing status in the selected port. In addition, you can stop a currently running test.
Test	Currently running test. The Megaplex 2100H/2104H supports the following tests: Local Loop, Tone Injection, Remote Loop, External Initialization, Local Loop, Local and Remote Loop, BERT and Remote Loop on Remote Unit, Remote Loop on External Unit, Remote Loop on Remote Unit, BERT
Time Left	Time remaining, in minutes, until the end of the current test.
BERT Count	Number of BERT errors counted during current BERT test (applicable only when BERT is running on the selected port).
New	The New section allows you to activate a diagnostic test if no test is currently running on the selected port.
Test	Name of test that you want to initiate. The available options are the same as the Current Test possible values. If diagnostic testing is not possible on the selected port, **None** appears in this field.
Duration (min)	Desired duration of the new test. Some ports require a time limit to prevent infinite execution. If the selected port requires a time limit, the default duration appears in this field when the Testing dialog box initially appears. **1** to **30** minutes. Other ports do not require a time limit, but you may set a time limit anyway: **infinite** (no limit), **1** to **30**.

➤ **To activate a test:**

1. In the **New** section, select a test.
2. Type a Duration for the new test.
3. Click <**Set**>.

➤ **To stop a currently running test:**

- Click **Stop Test**.

  This command is not applicable for Ext Init Local Loop tests.

➤ **To reset the BERT counter to zero (if a BERT test is currently running):**

- Click <**Clear Bert**>.

  The BERT counter restarts at zero, even if the BERT test continues.

Identifying Ports with Active Tests

When you activate a test on a particular port, the Card Layout view indicates that the port has a test running. The side view of the card is underlined with a blue stripe, and a blue vertical bar appears next to each port with an active test.

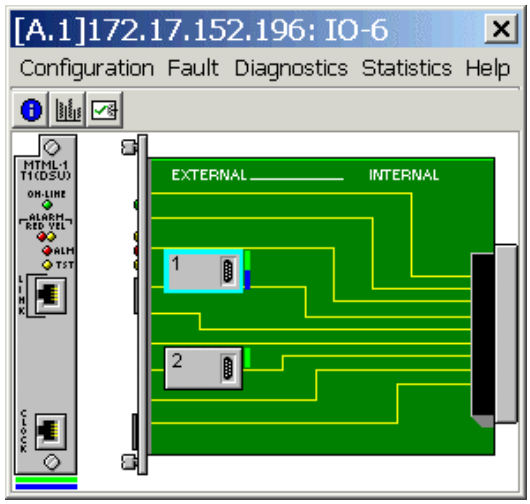


Figure 5-15. Card Layout view with Active Tests

Displaying Port Statistics

You can view statistical information for the external-1 port of an MTML card. RADview displays statistics in dialog boxes and graphs.

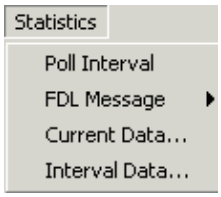


Figure 5-16. Statistics Menu

Setting the Polling Interval

RADview updates displayed statistical data by polling the Megaplex Hybrid at set intervals. The Polling Interval command allows you to set the number of seconds between polls.

➤ **To set the polling interval:**

- Select **Statistics > Poll Interval…**

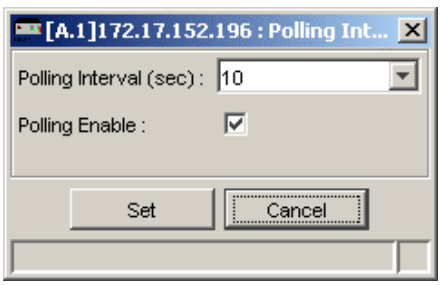


Figure 5-17. Polling Interval Dialog Box

Table 5-11. Polling Interval Parameters

Parameter	Possible Values / Remarks
Polling Interval (sec)	Number of seconds between polls Applicable for FDL messages and Current Data dialog boxes and graphs
Polling Enable	√ enables polling when a Statistics dialog box is open After each poll, RADview automatically updates the information in the dialog box. If polling is disabled, RADview does not automatically update a Statistics dialog box. ***Note:*** *Polling is always enabled when a Statistics graph is open.*

Displaying FDL Messages

You can view active FDL (Facility Data Link) Rx/Tx messages that have passed through the T1 ports of MTML-1 cards. The FDL Message options are only available to MTML-1/T1 ports in which:

- Active Status = Online or Online Redundancy
- Line type = ESF

➤ **To view FDL messages:**

- Select **Statistics > FDL Message** followed by one of the following: **FDL Rx Message** or **FDL Tx Message**.

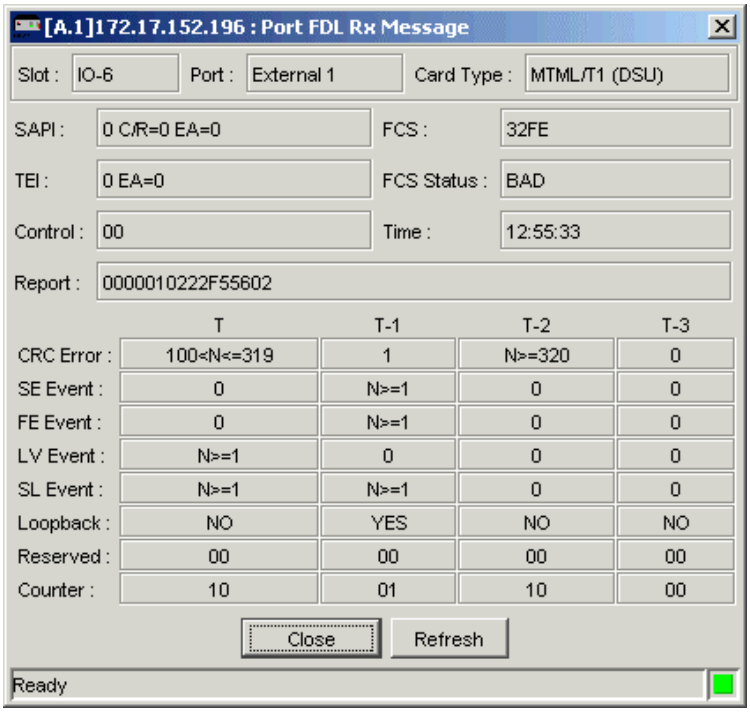


Figure 5-18. Port FDL Rx Message Dialog Box

The Port FDL Rx Message and Port FDL Tx Message dialog boxes are identical.

Table 5-12. Port FDL Rx Message Parameters

Parameter	Possible Values / Remarks
Slot	Slot number of the selected card: **IO-1 - IO-12** For MP-2104H: **IO-1..IO-5**
Port	Selected port: **external-1**
Card Type	Type of card inserted into the selected slot: **MTML-1/T1(CSU)** and **MTML-1/T1(DSU)**
SAPI	Service Access Point Identifier
TEI	Terminal Endpoint Identifier
Control	One byte: **00..FF**
Report	Eight bytes that carry the message contents
FCS	Two bytes that carry the Frame Check Sequence of the message
FCS Status	Indicates whether the FCS message is Good or Bad (if Bad, message probably contains an error)
Time	Time that the message was received at the management terminal: HH:MM:SS, where HH = hours, MM = minutes, SS = seconds
Interpretation	Each column contains the contents of the four latest FDL messages: **T** - Most recent message **T-1** - Message before the most recent message **T-2** - Message before the T-1 message **T-3** - Message before the T-2 message
CRC Error	Number of CRC errors, specified in one of the following ranges: **0** - None **1** - 1 **1<N<=5** - 1 to 5 **5<N<=10** - 5 to 10 **10<N<=100** - 10 to 100 **100<N<=319** - 100 to 319 **N>=320** - 320 or more
SE Event	Severely errored framing event **0** - 0 **N>=1** - 1 or more
FE Event	Frame synchronization bit error event **0** - 0 **N>=1** - 1 or more
LV Event	Line code violation event **0** - 0 **N>=1** - 1 or more
SL Event	Controlled SLIP event **0** - 0 **N>=1** - 1 or more
Loopback	Loopback on information bits (payload) **YES** - LB bit = LB=1 **NO** - LB bit = other value
Reserved	**01** = R bit = 1 **00** = R bit = other value
Counter	1-second report modulo-4 counter

If Statistics polling is enabled, RADview updates the data in the FDL Rx (or Tx) Message dialog box after each polling interval.

Displaying Current Data

The Current Data command allows you to view current statistics for MTML-1/T1 (CSU), and MTML-1/T1 (DSU). RADview displays the statistics in table format and graph format.

The Current Data option is only applicable to MTML-1 ports in which:

- Active Status = Online or Online Redundancy
- Line type =
  - For MTML-1/T1 – ESF
  - For MTML-1/E1 – E1-CRC, or E1-CRC-MF

➤ **To display the current data:**

- Select **Statistics > Current Data…**

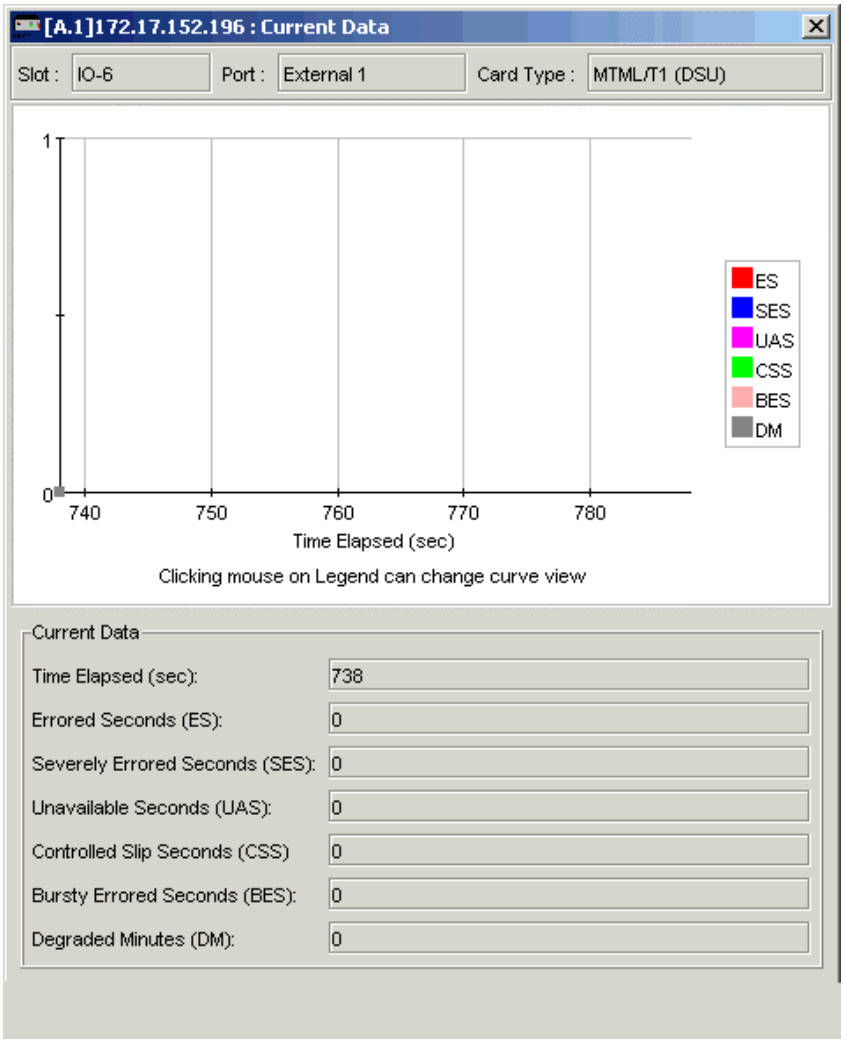


Figure 5-19. Current Data Dialog Box

The Current Data dialog box shows the amount of time that error(s) exist(s) in the current measurement interval. Each interval is 15 minutes (900 seconds).

Table 5-13. Current Data Parameters

Parameter	Possible Values / Remarks
Slot	Slot number of the selected card **IO-1 - IO-12** For MP-2104H: **IO-1..IO-5**
Port	Selected port **external-1**
Card Type	Type of card inserted into the selected slot **MTML-1/T1(CSU)**, **MTML-1/T1(DSU)**
Time Elapsed (sec)	Number of seconds since the beginning of the current interval
Errored Seconds (ES)	Number of seconds in the current interval in which an event or alarm occurred
Severely Errored Seconds (SES)	Severe Errored Seconds. Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred
Unavailable Seconds (UAS)	Unavailable Seconds. Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after the Megaplex Hybrid processes 10 consecutive seconds of data without an SES
Controlled Slip Seconds (CSS)	Controlled Slip Seconds. Number of seconds in the current interval in which at least one controlled SLIP event occurred
Bursty Errored Seconds (BES)	Bursty Errored Seconds. Number of seconds in the current interval in which 2 - 319 CRC events occurred
Degraded Minutes (DM)	Number of minutes in the current interval in which the bit error rate (BER) exceeded $1x10^{-6}$

If Statistics polling is enabled, RADview updates the data in the Current Data dialog box after each polling interval.

The Current Data Graph shows Megaplex Hybrid performance statistics in the current measurement interval. Each interval is 15 minutes (900 seconds). Lines of various colors represent a measurement item. A legend on the right side of the dialog box indicates the measurement items and their respective color indications.

For example, this graph (above) shows that no errors occurred during the current interval.

The horizontal axis indicates the time elapsed (in seconds) since the beginning of the current measurement interval. When a new interval begins, RADview displays a new graph.

The vertical axis indicates the various values of the measurements. The origin of the axis represents 0. The highest point represents the maximum value of the measurements (maximum = 899).

Displaying Intervals Data

You can view a selected 15-minute interval or cumulative totals of the data from the previous 24 hours.

➤ **To view data from a selected interval from the previous 24 hours:**

- Select **Statistics > Intervals Data…**

  This dialog box shows the number of intervals in the last 24 hours in which valid data was collected by the Megaplex Hybrid.

  The data parameters are the same as for the Current Data, except that the performance data relates to the selected interval (**Interval No.**). The data is also displayed as a graph.

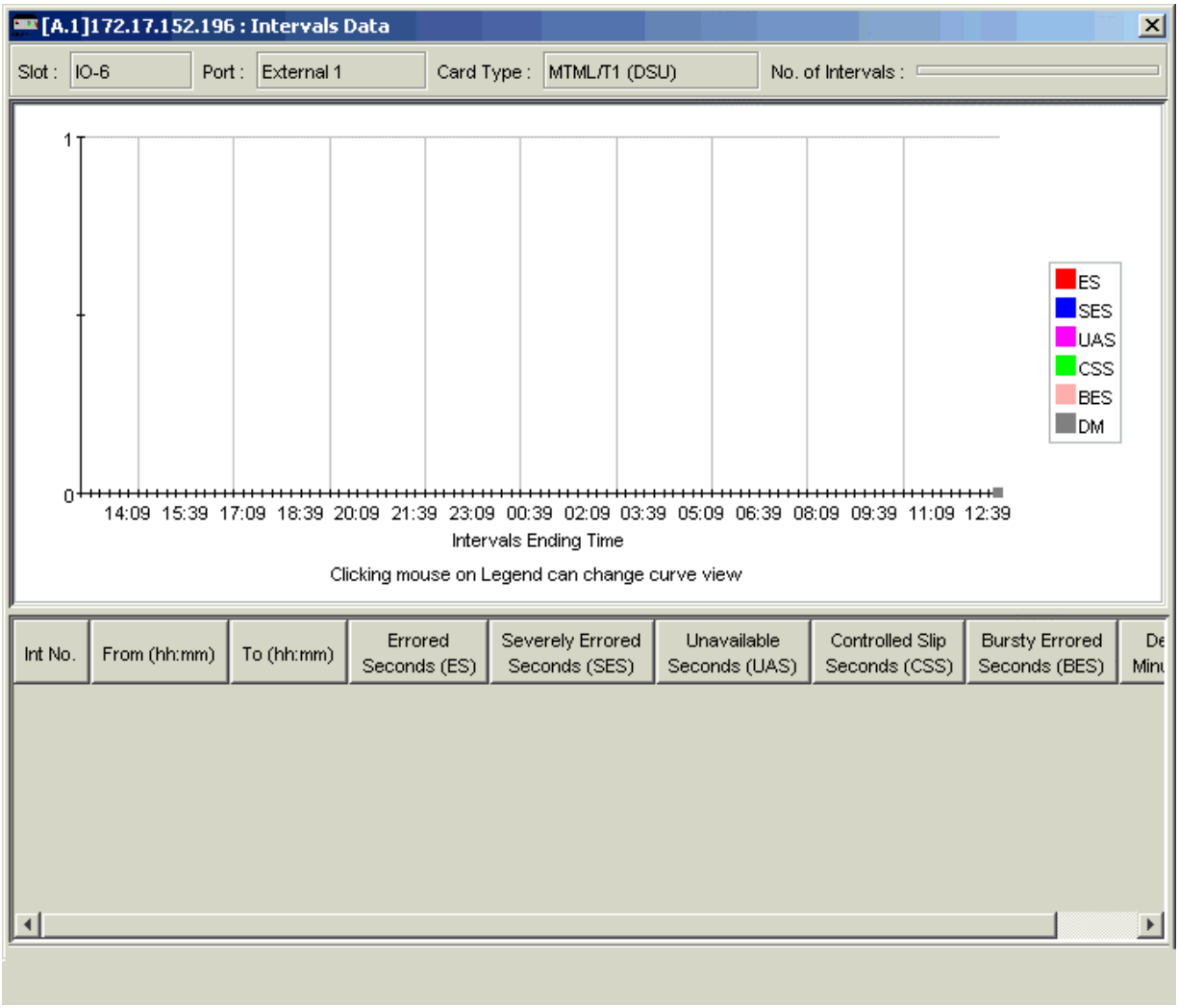


Figure 5-20. Intervals Data Table and Graph

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